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AUGUST, 1903

NUMBER 2

THE LIBRARY
OF THE
UNIVERSITY OF CHICAGO
BULLETIN

OF

**NORTHWESTERN
UNIVERSITY**

With

Application for Fellowship

Ralph W. Milligen 1904

COLLEGE OF LIBERAL ARTS



EVANSTON—CHICAGO
PUBLISHED BY THE UNIVERSITY

1903

NORTHWESTERN UNIVERSITY

EVANSTON-CHICAGO

Edmund J. James, A.M., Ph.D., President

Northwestern University consists of seven departments or schools. Four of these (Law, Medicine, Dentistry, and Pharmacy) are located in the heart of the city of Chicago. The other three (College of Liberal Arts, Music, and the Academy), are situated in Evanston, the most beautiful suburb of Chicago, immediately adjoining the city on the north.

The College Campus is located directly on the shore of Lake Michigan about three miles north of the city limits.

Women are admitted to all departments of the University except the Medical School on substantially the same terms as men.

For general information relating to the University as a whole, general catalogues, etc., address University Hall, Northwestern University, Evanston, Illinois.

I.

THE COLLEGE OF LIBERAL ARTS

COLLEGE CAMPUS, EVANSTON

Offers a four years' course in subjects appropriate to a modern college, leading to the Bachelor's degree. Numerous graduate courses are also offered leading to advanced degrees.

Special advantages are offered to the graduates of this college in the professional schools of the University.

For further information, address College of Liberal Arts, Evanston, Illinois.

II.

MEDICAL SCHOOL

CHICAGO

Offers a four years' course leading to the degree of Doctor of Medicine. The hospital and clinical facilities are especially good. This school was the first in the United States to take three important steps in Medical education: the enforcement of a standard of preliminary education, the adoption of longer annual courses, and a graded curriculum.

It ranks fourth in attendance among University Medical Schools in the United States.

Address Northwestern University Medical School, 2421 Dearborn Street, Chicago.

III.

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CHICAGO

Offers a three years' course in Law leading to the degree of Bachelor of Laws. Special facilities are provided for thorough preparation in the practical as well as the theoretical aspects of Law. The library is adequate to all the ordinary needs of the student, including over ten thousand volumes, while the proximity of the Chicago Law Institute Library provides an additional collection of nearly forty thousand volumes which the students are at liberty to use. The students come from all parts of the country, and the courses are arranged with a view to giving them that knowledge of Law which will be indispensable wherever they may practice.

Address Northwestern University Law School, Northwestern University Building, Corner of Lake and Dearborn Streets, Chicago.

IV.

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Offers courses leading to the degree of Graduate in Pharmacy and of Pharmaceutical Chemist. The course includes instruction in general Chemistry, Chemical Analysis, Pharmacy, Botany, Microscopy, Pharmacognosy, Dispensing, and Analytical Pharmaceutical Chemistry, including Drug Assaying, Bacteriology, and Sanitary Analysis. It ranks first in attendance among University Schools of Pharmacy in this country.

Address Northwestern University School of Pharmacy, Northwestern University Building, Corner of Lake and Dearborn Streets, Chicago.

NORTHWESTERN UNIVERSITY

COLLEGE
OF
LIBERAL ARTS

1903-1904



EVANSTON-CHICAGO

1903

ANNOUNCEMENTS FOR 1903-1904.

THE COLLEGE OF LIBERAL ARTS.

1903.

- September 21, Monday, **First Semester Begins.**
September 21 and 22, Monday and Tuesday, Examinations for Admission.
September 22, 23, 24, Tuesday, Wednesday, Thursday, Registration Days.
September 23, Wednesday, Second Examinations.
September 24, Thursday, Class-work begins, 8 o'clock A.M.
November 25, Wednesday evening to November 30, Monday morning, Thanksgiving Recess.
December 18, Friday evening, to January 5, 1904, Tuesday morning, 8 o'clock, Christmas Recess.

1904.

- January 28, Thursday, Founders' Day.
January 28, Thursday, Day of Prayer for Colleges.
February 3, Wednesday, to February 10, Wednesday, Regular Mid-year Examinations.
February 11, Thursday, Additional Examinations.
February 12, Friday, **Second Semester Begins.**
February 15, Monday, Second Examinations.
February 16, 17, 18, Tuesday, Wednesday, Thursday, Registration Days.
February 16, Tuesday, Class-work resumed, 8 o'clock A.M.
February 19, Friday, Sargent Prize Contest.
February 22, Monday, Washington's Birthday.
March 31, Thursday evening, to April 4, Monday evening, Easter Recess.
April 4, Monday, Second Examinations.
April 23, Saturday, Last day for the presentation of theses for Advanced Degrees.
May 2, Monday, Presentation of Harris Prize theses.
May 6, Friday, Kirk Prize Contestants announced.
May 21, Saturday, Examination of candidates for Advanced Degrees.
May 30, Monday, Memorial Day.

June 1,	Wednesday, to June 9, Thursday, Regular Examinations.
June 10,	Friday, Additional Examinations.
June 12,	Sunday, Baccalaureate Address.
June 13 and 14,	Monday and Tuesday, Examinations for Admission.
June 13,	Monday, Kirk Prize Oratorical Contest.
June 14,	Tuesday, Meeting of the Board of Trustees.
June 14,	Tuesday, Annual Meeting of the Phi Beta Kappa Society.
June 15,	Wednesday, Alumni Day.
June 16,	Thursday, Forty-Fifth Commencement.
June 17,	Friday, to September 19, Monday, Summer Vacation.

HISTORICAL.

Northwestern University was founded by an act of the Legislature of the State of Illinois on January 28, 1851, with "power to establish departments for the study of any and all of the learned and liberal professions" and "to confer the degree of doctor in the learned arts and sciences, and such other academical degrees as are usually conferred by the most learned institutions."

Although founded by men influential in the counsels of the Methodist Episcopal Church, this University was not established with the view of forcing on the attention of its students the creed or tenets of any particular religious denomination. Its aim has always been the promotion of learning under Christian auspices, and the development of Christian character. Its charter provides that "no particular religious faith shall be required of those who become students," and persons of all religious beliefs find a cordial welcome in any of its departments.

The first department to be established was the College of Liberal Arts, which was opened to students on November 5, 1855. Its location is in the city of Evanston, a suburb of Chicago adjoining it on the north, and lying directly on the shore of Lake Michigan. Evanston has a population of over twenty thousand, and has grown up about the College, under the protecting influence of some of the early legislation affecting the University. It is distinctly a city of homes.

The College campus extends for three-quarters of a mile along the lake shore. On it are situated University Hall, an imposing building of gray stone, used for administrative offices and classroom purposes; the Fayerweather Hall of Science, the gift to the University of the late Mr. D. B. Fayerweather of New York, well equipped for instruction in Physics, Chemistry, and Mineralogy; Fisk Hall, a new and commodious structure, devoted to the purposes of the University Academy;

Old College, the original College home; the Gymnasium; Annie May Swift Hall, specially designed for the uses of the School of Oratory, but occupied as well by college classes in Elocution; Orrington Lunt Library, recently erected through the munificence of a former President of the Board of Trustees, whose name it bears; the Observatory, built and equipped by Mr. James B. Hobbs of Chicago; Memorial Hall and Heck Hall, the buildings of Garrett Biblical Institute, a theological school in close coöperation with the University. Sheppard Field, the athletic ground of the University, is conveniently located on the upper part of the campus, while the School of Music and the women's Dormitories are but a short distance away.

During the first ten years of the history of the college the number of students annually enrolled was considerably less than one hundred, and it was not until thirty years had passed that its annual enrollment reached two hundred. During the decade 1880-1890 the attendance increased from 155 to 310, that is, it exactly doubled, while from 1890-1900 it again doubled, reaching in the latter year 643.

From a faculty of three in 1855, and of ten in 1880, the teaching body has increased to over fifty members. The number of annual courses offered to students in 1902-1903 was 198.

Of the 771 students enrolled during the year 1902-1903, fifty-seven were graduates and 714 were undergraduates. The total attendance was twenty per cent larger than during the preceding year.

The rapid growth in the number of students in the College of Liberal Arts has greatly taxed the classroom accommodations of the College, but the teaching staff and the laboratory and library facilities have fully kept pace with the demands made upon them. The College is well equipped for the work which it announces in this edition of the Bulletin.

THE COLLEGE OF LIBERAL ARTS

FACULTY.

EDMUND JANES JAMES, PH.D., LL.D., *President.*

THOMAS FRANKLIN HOLGATE, PH.D., *Dean, Professor of Applied Mathematics.*

DANIEL BONBRIGHT, LL.D., *Dean Emeritus, John Evans Professor of Latin Language and Literature.*

HERBERT FRANKLIN FISK, D.D., LL.D., *Professor of Pedagogics.*

ROBERT MCLEAN CUMNOCK, A.M., *Professor of Rhetoric and Elocution.*

ROBERT BAIRD, A.M., LL.D., *Professor of Greek Language and Literature.*

ROBERT DICKINSON SHEPPARD, A.M., D.D., *Professor of English and American History.*

ABRAM VAN EPS YOUNG, PH.B., *Professor of Chemistry.*

GEORGE WASHINGTON HOUGH, LL.D., *Professor of Astronomy and Director of Dearborn Observatory.*

JAMES TAFT HATFIELD, PH.D., *Professor of German Language and Literature.*

CHARLES BEACH ATWELL, PH.M., *Professor of Botany.*

HENRY CREW, PH.D., *Fayerweather Professor of Physics.*

J. SCOTT CLARK, LIT.D., *Professor of English Language.*

JOHN HENRY GRAY, PH.D., *Professor of Political Science.*

PETER CHRISTIAN LUTKIN, MUS.D., *Professor of Music.*

GEORGE ALBERT COE, PH.D., *John Evans Professor of Moral and Intellectual Philosophy.*

ALJA ROBINSON CROOK, PH.D., *Professor of Mineralogy and Economic Geology.*

HENRY SEELY WHITE, PH.D., *Henry S. Noyes Professor of Pure Mathematics.*

WILLIAM ALBERT LOCY, PH.D., *Professor of Zoölogy.*

CHARLES JOSEPH LITTLE, PH.D., LL.D., *Professor of Church History.*
(*President of Garrett Biblical Institute.*)

GEORGE OLIVER CURME, A.M., *Professor of Germanic Philology.*

JAMES ALTON JAMES, PH.D., *Professor of the History of Continental Europe.*

EDOUARD BAILLOT, L.H.D., *Professor of Romance Languages.*

AMOS WILLIAM PATTEN, A.M., D.D., *Professor of Biblical Instruction.*

ULYSSES SHERMAN GRANT, PH.D., *William Deering Professor of Geology.*

JOHN ADAMS SCOTT, PH.D., *Professor of Greek Language and Literature.*

DOREMUS ALMY HAYES, PH.D., D.D., *Professor of New Testament Exegesis.* (*Garrett Biblical Institute.*)

ASHLEY HORACE THORNDIKE, PH.D., *Professor of English Literature.*

FREDERICK CARL EISELEN, A.M., B.D., *Professor of Semitic Languages and Old Testament Exegesis.* (*Garrett Biblical Institute.*)

OLIN HANSON BASQUIN, PH.D., *Associate Professor of Physics.*

MARTHA FOOTE CROW, PH.D., *Dean of Women, Assistant Professor of English Literature.*

ARTHUR HERBERT WILDE, PH.D., *Registrar, Assistant Professor of History.*

OMERA FLOYD LONG, PH.D., *Assistant Professor of Latin.*

*JOHN EDWARD GEORGE, PH.D., *Assistant Professor of Political Economy.* (*Secretary of the Faculty.*)

WALTER DILL SCOTT, PH.D., *Assistant Professor of Psychology and Pedagogy.*

ALBERT ERICSON, A.M., *Instructor in the Swedish Language.* (*President of the Swedish Theological Seminary.*)

NELS EDWARD SIMONSEN, A.M., D.D., *Instructor in the Norwegian and Danish Languages.* (*Principal of the Norwegian-Danish Theological School.*)

MARY FREEMAN, A.M., *Instructor in Romance Languages.*

HERBERT GOVERT KEPPEL, PH.D., *Instructor in Mathematics.*

HENRY LE DAUM, A.B., *Instructor in French.*

CHARLES HILL, PH.D., M.D., *Instructor in Zoölogy.*

OLIN CLAY KELLOGG, PH.D., *Instructor in the English Language.*

GEORG EDWARD, *Instructor in German.*

MARCUS SIMPSON, PH.D., *Instructor in German.*

*On leave of absence.

JOHN PRICE ODELL, A.B., *Instructor in English Language.*

ROBERT RICHARDSON TATNALL, PH.D., *Instructor in Physics.*

JAMES FIELD WILLARD, PH.D., *Instructor in History.*

HORACE BUTTERWORTH, PH.B., *Instructor in Physical Culture and
Director of the Gymnasium.*

JAMES NEWTON PEARCE, PH.M., *Instructor in Chemistry.*

JOHN WESLEY YOUNG, A.M., *Instructor in Mathematics.*

WILLIAM ABBOTT OLDFATHER, A.M., *Instructor in Latin.*

HERMAN CHURCHILL, A.M., *Instructor in English Language.*

GLEASON FILLMORE STARKWEATHER, *Assistant in Shop-Work.*

HELEN JEWELL, PH.B., *Assistant in Botany.*

MARIE LOUISE VIMONT, B.S., *Demonstrator in Zoölogy.*

ISABEL LARSEN, B.S., *Assistant in Zoölogy.*

JENNIE BRADSHAW STURGEON, B.L., *Assistant in Botany.*

LIBRARY STAFF.

LODILLA AMBROSE, PH.M., *Assistant Librarian.*

OLINIA MAY MATTISON, PH.B., *Assistant.*

FRANCES CURREY PIERCE, PH.B., *Assistant.*

ADELINE MAITLAND BAKER, B.L.S., *Cataloguer.*

STANDING COMMITTEES.*

Administrative:—Professors HOLGATE, BAIRD, BONBRIGHT, CROW, FISK, PATTEN, WILDE, YOUNG.

Board of Examiners:—Professors WHITE, BAILLOT, CURME, GEORGE, LONG, J. A. SCOTT, Dr. TATNALL.

Undergraduate Study:—Professors YOUNG, COE, GEORGE, GRANT, HATFIELD.

Advanced Standing:—Professors LOCY, BALLIOT, CLARK.

Graduate Study:—Professors CREW, GRAY, LOCY, J. A. SCOTT, THORNDIKE.

Admission Requirements:—Professors ATWELL, BASQUIN, CURME, W. D. SCOTT, THORNDIKE.

Delinquent Students:—Professors HOLGATE, LONG, WILDE.

Registration and Special Students:—Professors HOLGATE, GRANT, WILDE.

Accredited Schools:—Professors JAMES, FISK, GRANT, LONG, WHITE.

Academy:—Professors FISK, CLARK, CREW, GRAY, W. D. SCOTT.

Library:—Professors BONBRIGHT, GRAY, HATFIELD, LOCY, YOUNG.

Chapel:—Professors CROOK, PATTEN, Dr. KEPPEL.

Fellowships and Scholarships:—Professors WHITE, HATFIELD, JAMES.

Loans and Charitable Funds:—Professors PATTEN, FISK, HOUGH.

Regulation of Athletic Sports (Faculty Members):—Professors LONG, J. A. SCOTT, WHITE.

Musical Organizations:—Professors HATFIELD, CROOK, LUTKIN.

Social Affairs:—Professors YOUNG, ATWELL, COE, CROW, FISK, JAMES, LUTKIN.

Gymnasium and Physical Training:—Professors HOLGATE, LONG, W. D. SCOTT, Mr. BUTTERWORTH.

Willard Hall:—Professors CROW, GRANT, JAMES, PATTEN.

* Names arranged alphabetically except the chairman.

REQUIREMENTS FOR ADMISSION.

Candidates for admission to the College of Liberal Arts must be at least sixteen years of age, and must present satisfactory evidence of good moral character, together with credentials from the last institution which they attended. These credentials should include (1) a statement signed by the Principal of the school showing in detail the studies pursued by the candidate in preparation for college, and (2) the Principal's recommendation for admission.

Blank forms for credentials may be had on application to the Registrar, and should be returned to him, properly filled out, at least one week before the opening of the college year.

Either by examination or by certificate from an accredited school, all candidates must give satisfactory evidence of preparation in the following subjects:

- (1) All the units described under Group A.
- (2) Four units from Group B.
- (3) Three additional units from Groups B or C.

The items in the groups indicate both the amount of work to be covered and the time to be devoted to each subject in a good secondary school, in order to secure a unit of credit.

GROUP A.

1. *English.* The character and amount of preparation required is indicated in the program which follows, although the arrangement of the work may vary considerably from this.

(a) Spelling, punctuation, grammar, paragraphing, the fundamental principles of rhetoric, reading, practice in writing compositions based on the student's personal experience. *Time requirement, the equivalent of four hours a week throughout one year.*

(b) The following books are to be read. The student should acquire a knowledge of their subject-matter and of the main facts in the lives of their authors, and should practice writing short compositions on subjects drawn from their reading. Proper equivalents for these books may be accepted.

1904, 1905: Shakespeare's "Merchant of Venice" and "Julius Cæsar"; the Sir Roger de Coverley Papers in the *Spectator*; Goldsmith's "Vicar of Wakefield"; Coleridge's "Ancient Mariner"; Scott's "Ivanhoe"; Carlyle's "Essay on Burns"; Tennyson's "The

Princess"; Lowell's "The Vision of Sir Launfal"; George Eliot's "Silas Marner." *Time requirement, the equivalent of four hours a week throughout one year.*

(c) The student is expected to make a thorough study of each of the works named below, accompanied by practice in composition. No substitution for these books will be accepted.

1904, 1905: Shakespeare's "Macbeth"; Milton's "Lycidas," "Comus," "L'Allegro," and "Il Penseroso"; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and on Addison. *Time requirement, the equivalent of four hours a week throughout one year.*

Certificates from accredited schools are expected to contain a statement from the instructor in English that each student, before entering college, has written *at least eight exercises of at least three hundred words each*. Descriptions of scenes or objects actually witnessed by the writers, narrations based on personal experiences, and arguments on specific questions will be accepted; rambling expository essays on broad general themes are not acceptable.

Students without certificates may present these exercises for inspection by the examiner.

3. *Mathematics*—(a) Algebra, including factoring, common divisors and multiples, fractions, simple equations of one or more unknown quantities, involution, evolution, theory of exponents, radicals. Special attention should be given to the statement of problems in the form of equations. *Time requirement, four or five hours a week throughout one year.*

(b) Algebra, including a review of the previous work and a thorough study of radicals, equations involving radicals, quadratic equations with one or two unknown quantities, and equations solved like quadratics. *Time requirement, the equivalent of four or five hours a week throughout one-half year.*

(c) Plane Geometry, including a course equivalent to that contained in Holgate's or in Beman and Smith's Geometry, together with the solution of a large number of exercises and numerical problems. *Time requirement, four or five hours a week throughout one year.*

(d) Solid Geometry, a course equivalent to that contained in Holgate's or in Beman and Smith's Geometry, including numerous exercises and problems. *Time requirement, the equivalent of four or five hours a week throughout one-half year.*

It is recommended that the work in Mathematics in preparation for college be extended over at least three years of the high school course, and especially that work be given in this subject in the last year. A good arrangement is as follows: First year, four hours a

week, algebra; second year, four hours a week, geometry; fourth year, four hours a week for first half-year, solid geometry; second half-year, algebra, reviewing and making a thorough study of quadratic equations and radicals.

4. *History*—Ancient History with special reference to Greece and Rome, West's Ancient History, or Botsford's Greece and Rome, or an equivalent, with supplementary reading. *Time requirement, four or five hours a week throughout one year.*

NOTE.—If a candidate cannot present a year of Ancient History, he may substitute for it either No. 27, 28, or 29, as described under Group C, or a year of General History, Myers's, or an equivalent.

5. *Science*—Physics, a course equivalent to that contained in Hall and Bergen's Text-book of Physics, Carhart and Chute's Elements of Physics, or Crew's Elements of Physics. The candidate must present evidence of familiarity with the general principles of physical science, especially the simpler principles and phenomena which are constantly illustrated in daily life, such as the pendulum, hydrostatics, water waves, pitch and intensity of sound, heat conduction, boiling, freezing, simple lenses, mirrors, prisms, magnets, lines of force, voltaic cells, galvanometers, etc. It is also required that a course of laboratory work shall have been pursued in connection with the text-book, equivalent to at least forty exercises from the Harvard list, or from Crew and Tatnall's Laboratory Manual of Physics, and that accurate notes descriptive of the experiments shall have been kept. *Time requirement, five hours a week throughout one year.*

NOTE.—If a candidate cannot present a year of Physics, he may substitute for it either a year of Physiography (No. 22), a year of Biology (No. 23, 24, or 25), or a year of Chemistry (No. 26).

GROUP B.

8. *Greek*—(a) Grammar, White's First Greek Book, or an equivalent. *Time requirement, four or five hours a week throughout one year.*

9. *Greek*—(b) Xenophon's Anabasis, Books I, II, and III; Jones's Greek Prose Composition, or an equivalent, thirty lessons. *Time requirement, four or five hours a week throughout one year.*

10. *Greek*—(c) Anabasis, Book IV. Prose Composition, lessons thirty to forty. Homer, Iliad or Odyssey, 1,800 lines. *Time requirement, four or five hours a week throughout one year.*

11. *Latin*—(a) Grammar; Cæsar's Gallic War, ten pages, or twenty pages of Viri Romæ, with retranslation of English into Latin. *Time requirement, five hours a week throughout one year.*

12. *Latin*—(b) Cæsar's Gallic War, four books, completed; Latin Composition. *Time requirement, five hours a week throughout one year.*

13. *Latin*—(c) Cicero, six orations, including the Manilian Law; Latin Composition. *Time requirement, five hours a week throughout one year.*

14. *Latin*—(d) Vergil, six books of the *Æneid*. *Time requirement, four or five hours a week throughout one year.*

It is strongly advised that sight-reading be made a daily practice in connection with the texts to be translated. In this way the *Bucolics* of Vergil or two or three books of the *Æneid* and one or two orations of Cicero may be read, in addition to the amount designated. The work in Latin Grammar should be thorough, and be made familiar by reviews and written exercises. An examination is appointed about six weeks after the student's entrance, to test the sufficiency of his preparation in this subject.

15. *French*—(a) Correct pronunciation; elementary grammar, with exercises, including the irregular verbs; the reading of from one hundred and fifty to two hundred pages of easy French prose. *Time requirement, five hours a week throughout one year.*

16. *French*—(b) Elementary grammar completed; easy composition, based upon one of the works read; the reading of two hundred and fifty to three hundred pages of French prose. *Time requirement, five hours a week throughout one year.*

17. *French*—(c) Study of the difficulties of French syntax and idioms; translations into French from text-book and easy original compositions; the reading of not less than six hundred pages of at least five standard authors; ability to take grammatical dictations and to understand and answer questions in French. *Time requirement, four or five hours a week throughout one year.*

18. *German*—(a) Pronunciation; the memorizing and use of easy colloquial sentences; the rudiments of grammar (inflection of the articles, ordinary nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of the more common prepositions; the simpler uses of the modal auxiliaries and the elementary rules of syntax and word-order); abundant easy exercises; the reading of seventy-five to one hundred pages of graduated texts. *Time requirement, four or five hours a week throughout one year.*

19. *German*—(b) The reading of from one hundred and fifty to two hundred pages of literature in the form of easy stories and plays; translation into German of matter based upon works read; continued drill upon rudiments of grammar. *Time requirement, four or five hours a week throughout one year.*

20. *German*—(c) The reading of about four hundred pages of moderately difficult prose and poetry; retranslation into German; grammatical drill upon the less usual strong verbs; the use of articles, cases, auxiliaries, tenses and modes, word-order and word-

formation. *Time requirement, four or five hours a week throughout one year.*

NOTE.—A single unit of a foreign language will be accepted for entrance only on condition that the candidate shall continue the study of that language through a second year.

GROUP C.

21. *Mathematics*—Algebra, including ratio and proportion, variation, progressions, permutations and combinations, binomial theorem, logarithms and their application to interest and annuities, introduction to determinants, theory of equations and series, as in Fisher and Schwatt's College Algebra, or Hall and Knight's Elementary Algebra, or a full equivalent.

Plane Trigonometry, including the solution of oblique triangles. Consistent employment of ratio definitions of the trigonometric functions is expected, also the ability to verify numerical computations. *Time requirement, five hours a week throughout one year.*

22. *Physiography*—A study of the subjects usually given in courses in physical geography—the earth as a planet, the atmosphere, the climate, the ocean, and the land. Emphasis is to be placed upon the land, especially upon the topographic features, their origin and their significance. Some recent text-book should form the basis for the course, and the text-book should be supplemented by the study of maps, models, and the features of the earth's surface in the vicinity of the school. *Time requirement, four or five hours a week, throughout one year.*

23. *General Biology*—The study of typical animals and plants by laboratory methods covering the facts of morphology and physiology. This requirement may be met by a course such as that laid down in Boyer's Elementary Biology, or in Colton's Practical Zoölogy and Atkinson's Lessons in Botany. In all cases special provision should be made for laboratory work, and accurate notes and drawings should be made by the student. Teachers in accredited schools reporting to the University should designate the quality of the laboratory work as a separate item, in addition to that of the class room work. *Time requirement, five hours a week throughout one year, including not less than one hundred and forty hours of laboratory work and two class-room periods a week.*

24. *Botany*—The study of plants as living organisms, with special regard to function, structure, and relation to environment. Each recitation or quiz period should be preceded by four hours of laboratory work. Atkinson's Lessons in Botany and Bergen's Foundations of Botany are satisfactory texts. Each pupil should individually perform the experiments and demonstrations, and should keep

a neat and accurate notebook showing the work done by himself and the conclusions reached. *Time requirement, four hours a week throughout one year.*

25. *Zoölogy*—One year's study of animal structure, habits, and general life-history will be accepted as a full item of credit for entrance, provided it has been done by the laboratory method. Conditions for undertaking this work vary too widely to make it desirable to designate either an outline or text-books. Teachers competent to carry on such a course for a full year will have their own method, and the material used will also vary. Colton's *Practical Zoölogy* and Parker and Haswell's *Manual of Zoölogy* (the latter for supplementary reading) will be suggestive. Emphasis should be placed on training in observation and accuracy in drawing and expression in the notebooks. To meet the requirements in this course there should be not less than 150 hours of laboratory work, besides two class-room periods a week throughout the year.

26. *Chemistry*—This course should occupy not less than four periods a week through a year, which should allow at least eight hours of the student's time for the subject. Laboratory work should be made an essential feature of the study, and this may well take one-half of the total time assignment. Careful and systematic notes of his individual work should be made by the student. Some work in quantitative experiments is recommended as extremely desirable both for training and in order to illustrate the fundamental laws. Purely descriptive work may better be limited to comparatively few elements and compounds rather than be extended to a larger list with resulting confusion to the student.

27. *Mediæval and Modern European History*—Myers's *Mediæval and Modern History*, or an equivalent, with supplementary reading. *Time requirement, four or five hours a week throughout one year.*

28. *English History*—A study of the political and constitutional development of England. Larned's *English History* or an equivalent. *Time requirement, four or five hours a week throughout one year.*

29. *American History and Civil Government*—Channing's *Students' History of the United States*, or an equivalent. James and Sanford's *Government in State and Nation*, or an equivalent. *Time requirement, four or five hours a week throughout one year.*

NOTE.—Candidates are recommended to offer one or more of the units of History as described above, as it is believed that better educational results are obtained by devoting a full year to one of these periods. But until further notice a unit of credit will be given for a year's work devoted to any two of these divisions, or a unit of credit will be given for a year devoted to General History.

30. *Political Economy*—Macvane's *Political Economy*, or its equivalent. *Time requirement, four or five hours a week throughout one year.*

31. *Manual Training*—Joinery, practice in making the more common joints in wood with hand tools; wood-turning, the use of the ordinary turning tools in making various curved forms, cups, balls, etc.

Pattern making, practice in making wood patterns from which castings may be made, involving the study of shrinkage, distribution of metal, and various methods of molding; forging, practice in forming iron into various shapes when heated to the plastic condition, welding, and tempering. Woodward's *The Manual Training School* describes the usual exercises. If a laboratory manual is not used the student should write up each exercise carefully, as in other laboratory work. *Time requirement, six hours a week in the shop throughout two years.*

GROUP D.

Instead of a full year's work in one science, the equivalent of four terms' work, each of five hours a week, from the subjects in this group will be accepted, until further notice, for one unit of credit under Group C; but students are strongly advised to make choice of one subject and pursue it through the year.

40. *Botany*—A practical knowledge of the general facts of plant life, such a course as is outlined in Atkinson's *Lessons in Botany*.

41. *Zoölogy*—A study of various animal types founded upon laboratory work such as that prescribed in Part I, Boyer's *Elementary Biology*.

42. *Physics*—Elements of Physics, Crew's, first four chapters, or an equivalent.

43. *Astronomy*—Young's Elements.

44. *Geology*—Brigham's Text-book of Geology, or Tarr's *Elementary Geology*, or an equivalent.

45. *Chemistry*—Remsen's *Elementary Course*, or an equivalent. It is urgently recommended that laboratory work by the student accompany this study.

46. *Drawing*—Elements of Free-Hand and Geometrical Drawing; such a knowledge of the subject as may be gained by practice under instruction two hours a week through one year.

47. *Human Physiology*—Martin's *Human Body*, briefer course, or an equivalent.

48. *Physical Geography*—Some recent text-book.

49. *History of England*—Montgomery's, or an equivalent.

50. *Civil Government*—James and Sanford's, or an equivalent.

In special cases, where candidates are unable to meet the requirements relating to specific subjects, but can present the

full equivalent of the *total* requirement for admission, they may by vote of the Faculty or the Board of Examiners be admitted as regular students; but this regulation will not release a candidate for a degree from any of the specified studies required for that degree, as described on pages 22 and 23.

EXAMINATIONS FOR ADMISSION.

The regular days of examination for admission to the College of Liberal Arts are the Monday and Tuesday next preceding Commencement, and the first Monday and Tuesday of the college year. The regular examinations for the year 1904 will be held on June 13 and 14; and on September 19 and 20. Candidates may be examined and admitted at other times if prepared to enter classes at an advanced point in the regular courses; but they are advised to enter at the beginning of the college year.

On the dates above named, examinations will be held in the following order in Room 10, University Hall.

PLAN FOR ENTRANCE EXAMINATIONS, 1904.

MONDAY, JUNE 13 AND SEPTEMBER 19.

- 8 A.M., Subjects 8, 9, 10, 15, 16, 17, 41.
- 10 A.M., Subjects 11, 12, 21, 42, 43.
- 2 P.M., Subject 4.
- 3 P.M., Subjects 5, 44, 45.
- 4 P.M., Subjects 22, 47, 48.

TUESDAY, JUNE 14 AND SEPTEMBER 20.

- 8 A.M., Subject 3.
- 10 A.M., Subjects 18, 19, 29, 30.
- 11 A.M., Subjects 13, 14, 20, 23, 26, 28, 40.
- 2 P.M., Subject 1.
- 3 P.M., Subjects 24, 25, 27, 49, 50.

The results of the examinations held by the College Entrance Examination Board, with headquarters in New York, will be accepted by the Board of Examiners of this college in lieu of their own examinations. These examinations are held in June in Northwestern University Building, Chicago.

ADMISSION BY CERTIFICATE.

Students who come from an accredited academy or high school may be admitted on certificate without examination, provided they present themselves for admission not later than a year and three months after graduation from their school. The certificate must show that the candidate has met the requirements for admission as described on page 11 and must bear the Principal's signature recommending the candidate for admission. In case the preparation of a student admitted on certificate is found in the first semester to be unsatisfactory, he will be required to complete his preparation in a fitting-school or in such other way as may be designated.

ADMISSION AS SPECIAL STUDENTS.

On the recommendation of a standing committee of the Faculty, persons of serious purpose and mature years may be admitted as special students to pursue selected studies. The work taken by such students is under the supervision and control of the committee on Registration and Special Students. Applications for admission as special students must be accompanied by evidence of sufficient qualification to carry on the proposed work to advantage, and in general Special Students will be expected to meet the full entrance requirements.

ADMISSION TO ADVANCED STANDING.

Students from other colleges seeking admission to this college must present evidence of honorable dismissal, and must give satisfactory proof of preparation for the courses of study which they desire to enter. They should bring official certificates showing their grade of credits for the subjects which they have pursued, also the number of weeks and the number of hours a week the respective studies were taken. The amount of credit to be obtained by certificate from another institution is determined by a committee of the Faculty, but no advanced credit will be given without examination

except for work done in an approved college. All claims for advanced credit must be made during the first year of residence. Candidates for advanced standing are not admitted later than September of the collegiate year in which they expect to graduate.

ACCREDITED SCHOOLS.

High schools and academies may be placed on the accredited list of the University by action of the Faculty, upon the recommendation of the Committee on Accredited Schools. This relation implies that the certificates of the school properly attested will be accepted at their face value toward meeting the requirements for admission.

Superintendents or Principals desiring to have their schools placed on the accredited list should make application to the Chairman of the Committee on Accredited Schools, who will provide for a proper inspection. The following information will be expected in the letter of application:

- a.* The names of all the teachers, with a statement both of their preparation for teaching and of their experience in that work.
- b.* The latest printed catalogue or annual report of the school, containing an outline of the course of study and text-books used.
- c.* A careful statement of the methods pursued in teaching Mathematics, Languages, and Sciences.
- d.* The amount and kind of scientific apparatus and the extent of library facilities accessible to students.

The schools which are placed on the accredited list, will continue to be accredited for three years, unless the Faculty within this period becomes satisfied that such changes have occurred as make further inspection desirable.

CERTIFICATES OF THE SCHOOL OF CORRESPONDENCE.

Certificates of the Interstate School of Correspondence, affiliated with the University, will be accepted for admission to college at their face value in the subjects covered by its academic courses as follows: English Language, one unit; English Literature, two units; Mathematics, three units; Latin, one unit; Botany, one unit.

Inquiries concerning Correspondence Work should be addressed to the Interstate School of Correspondence, 378-388 Wabash Avenue, Chicago.

RESIDENCE.

The University maintains but one dormitory for men, accommodating about thirty students. A few students find lodgings in Heck Hall, the dormitory of Garrett Biblical Institute, and about twenty men room in the College Young Men's Christian Association House. Aside from these limited accommodations, men students find rooms for themselves in private families.

Unless special exemption from the rule is granted, women students room in one or other of the Halls provided for them. Willard Hall is under the immediate oversight of the Dean of Women who lives in the building and associates with the residents as a friend and adviser. Pearsons Hall and Chapin Hall are in charge of an association of women, incorporated as the Woman's Educational Aid Association, which considers the claims of all applicants for admission, and has a friendly supervision over the residents of these halls. The ordinary work of Pearsons and Chapin Halls is done by the young women residing in these halls, under the direction of a competent matron. In this way the expenses of living are materially reduced.

All women students, wherever they reside, are expected to conform to the general regulations prescribed for the conduct of those living in the Halls.

NOTE—For further information respecting Willard Hall, letters of inquiry should be addressed to the Matron, Willard Hall, Evanston, Ill.; and for information respecting Pearsons or Chapin Hall, letters should be addressed to the Corresponding Secretary of the Woman's Educational Aid Association, Evanston, Ill.

PROGRAMS OF STUDY.

As a condition of graduation, a student is required to complete 120 semester hours of work, which must include the courses prescribed for the degree sought, the major work in at least one department, and the minor work in at least one other department. Four years will usually be necessary for the satisfactory accomplishment of this work.

In the selection of studies, prescribed courses take precedence of elective courses, and in the order designated in the programs. Except by special permission of the Committee on Registration, students must take, in addition to the prescribed studies, elective work sufficient to make a total of fifteen hours a week.

SCHEDULE OF REQUIRED STUDIES.

PRESCRIBED STUDIES FOR THE DEGREES OF BACHELOR OF ARTS
AND BACHELOR OF PHILOSOPHY.

I.	Mathematics A or AB, - - -	4 or 5 hours	1st year
II.	English Language A, - - - -	3 hours	1st year
III.	Two of the following [see note (a) below]: Latin A, Greek A, French A, German A, - -	Each 4 hours	1st year
IV.	English Literature A, - - - -	2 hours	2nd year
V.	One of the following [see note (b) below]: Latin B, Greek B, French B, German B, - -	3 hours	2nd year
VI.	One of the following: Physics A, Chemistry A, Zoölogy A, Botany A, Geology A, Mineralogy A, - - - -	3 or 4 hours	2nd or 3rd year
VII.	One of the following: History AB, A, or BC, Economics A or G, Philosophy A, - - - -	3 hours	2nd or 3rd year
VIII.	Philosophy E, - - - - -	1 hour	3rd or 4th year

NOTE (a).—Candidates for the degree of Bachelor of Arts must take, under III., Latin A and Greek A; and candidates for the degree of Bachelor of Philosophy must take Latin A or Greek A and French A or German A.

NOTE (b).—Candidates for the degree of Bachelor of Arts must take, under V., either Latin B or Greek B; while candidates for the degree of Bachelor of Philosophy may take any one of the four courses named.

PRESCRIBED STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE.

I.	Mathematics A or AB, - - - -	4 or 5 hours	1st year
II.	English Language A, - - - -	3 hours	1st year
III.	French A (see note below), - -	4 hours	1st or 2nd year
IV	German A (see note below), -	4 hours	1st or 2nd year
V.	English Literature A, - - - -	2 hours	2nd year
VI.	Two of the following, of which one must be chosen from the first three named: Physics A, Chemistry A, Zoölogy A, Botany A, Geology A, Mineralogy A, Mathematics B, BB, or C	3 or 4 hours	1st, 2nd, or 3rd year
VII.	One of the following: History AB, A, or BC, Economics A or G, Philosophy A, - - -	3 hours	2nd or 3rd year
VIII.	Philosophy E, - - - - -	1 hour	3rd or 4th year

NOTE.—If a candidate has presented for admission to college, Latin (a), (b), and (c), or Greek (a), (b), and (c), either French A or German A may be omitted from this schedule, but the work preparatory to the course thus omitted must be taken.

ELECTIVE STUDIES.

In making up his program of elective work, the student's choice of courses is subject to the special regulations of the several departments.

At a date not later than the registration at the beginning of the third year of residence every candidate for a Bachelor's degree must announce the department in which he proposes to do *major work*, and also the department in which he proposes to do *minor work*. If the *major* is chosen in a department of foreign language, the *minor* must be chosen in a department other than a foreign language. The specific courses constituting the *major* and the *minor* in each department will be found listed in the schedule on pages 25 and 26. These involve in the case of a major about ten year-hours given to work in one department, and distributed over at least two years of the general program.

Students are advised to give careful thought to the plan of their elective work as early as the beginning of the second year. They may find it to their advantage to devote the whole, or a large part, of their elective time in the second year to the *major* subject. Elective work will be made more profitable by adhering consistently to a plan adopted for each year, and a course once selected should be continued through the year.

FACULTY ADVISERS.

Every undergraduate student on entering college is assigned to some member of the Faculty, who is to act as his adviser and give him helpful counsel relating to his college life. As soon as the student makes choice of the department in which he is to do his major work, the professor at the head of that department becomes his adviser and should be consulted freely on all matters relating to subsequent work. The student is required to submit his choice of studies to his adviser and obtain approval of the same before completing his registration for each year.

SCHEDULE OF MAJORS AND MINORS.

Every candidate for a degree must include in his total credit the work prescribed for a *major* in some one department and for a *minor* in some other department. If the *major* is chosen in a department of foreign language, the *minor* must be chosen in a department other than a foreign language.

DEPARTMENT	MAJOR	MINOR
Biblical Literature.	Ten year-hours.	Six year-hours.
Biology.	Botany A and Zoölogy A, and either Botany C or Zoölogy C.	
Botany.	Course A and six additional year-hours.	Course A and three additional year-hours.
Chemistry.	Courses A, B, and C.	Courses A and B.
Economics.	Course A or G, and seven additional year-hours.	Course A or G, and three additional year-hours.
English Language.	Courses A and B, and six additional year-hours, which may include Greek F if not used towards a major in Greek.	Courses A and B, and two additional year-hours.
English Literature.	Course A and eight additional year-hours, which may include English Language D.	Course A and four additional year-hours.
Geology.	Course A and seven additional year-hours, which may include Mineralogy A.	Course A and three additional year-hours.
German Languages and Literature.	Courses A (or BB) and B, and six additional year-hours.	Courses A (or BB) and B.
Greek Language and Literature.	Courses A and B, and five additional year-hours, not including Course N.	Courses A and B.
Hebrew.		Courses A and B.
History.	Course AB, A, or BC, and seven additional year-hours.	Course AB, A, or BC, and three additional year-hours.

DEPARTMENT	MAJOR	MINOR
Latin Language and Literature.	Courses A and B, with C or D, and E or F, or their equivalents.	Courses A and B.
Mathematics.	Fourteen year-hours, including Courses A or AB, and B or BB.	Courses A or AB, and B, BB, or C.
Mineralogy and Economic Geology.	Course A and seven additional year-hours, which may include Geology A.	Course A and three additional year-hours.
Pedagogics.	Ten year-hours, including Courses A or B, and C or D, Philosophy A, and two additional year-hours in Pedagogy or Psychology.	Six year-hours.
Philosophy, Psychology, and Logic.	Courses A and C, and five additional year-hours.	Course A and three additional year-hours.
Physics.	Course A and six additional year-hours.	Course A and three additional year-hours.
Romance Languages.	Courses A and B, and six additional year-hours.	Courses A and B.
Zoölogy.	Course A and six additional year-hours.	Course A and three additional year-hours.

COURSES OF INSTRUCTION.

The courses of instruction are subject to change from year to year. Those given during the year 1903-1904 are described below.

The amount of credit towards graduation assigned to each course is expressed by the terms *one hour, two hours*, etc., an hour of credit being given for the satisfactory completion of work equivalent to one exercise a week during one semester.

The Faculty reserves the right to withdraw, at the beginning of a semester, the offer of any study not chosen by at least five persons.

ASTRONOMY AND METEOROLOGY.

A—*Astronomy; Meteorology.* 2 hours.

Tuesdays, Thursdays, 2.

Professor HOUGH.

First Semester.—General Astronomy.

Second Semester.—General Astronomy and Meteorology.

BIBLICAL LITERATURE.

A—*Introduction to the English Bible.* 2 hours.

Wednesdays, Fridays, 2.

Professor PATTEN.

First Semester.—How the Bible came to be. The evolution of the English Bible. The English of the Bible. The Bible and English literature.

Second Semester.—The Bible as literature. Lectures and required readings, with papers on the various topics considered.

Text used: The American Standard Revised Version.
Moulton's Modern Readers' Bible.

- B—*The Gospel of Luke.* 2 hours.
Tuesdays, Thursdays, 2.

Professor PATTEN.

First Semester.—A study of the Synoptic Gospels, with Luke as a basis.

Second Semester.—The Christ of the Gospels as the central point of the Christian Evidences.

Text: Cambridge Bible for Schools and Colleges.

Rowe's Manual of the Christian Evidences.

- C—*Biblical History.* 2 hours.
Wednesdays, Fridays, 3.

Professor PATTEN.

First Semester.—History of the Hebrews, from the Conquest to the Exile.

Second Semester.—History of the Jews, from the Exile to the Christian Era.

Text: Lectures, and required readings. Kent's Historical series.

- D—*Acts of the Apostles and the Epistles.* 2 hours.
Tuesdays, Thursdays, 4.

Professor PATTEN.

First Semester.—The Acts of the Apostles. An inductive study of the era of Apostolic Christianity.

Second Semester.—Selected Pauline Epistles.

Text: Cambridge Bible for Schools and Colleges, with lectures and required readings.

- E—*History of Religion.* 2 hours.
Tuesdays, Thursdays, 3.

Professor PATTEN.

First Semester.—An inquiry into the origin of religion, with a survey of the principal religions of the world in their rise and development.

Text: Menzies' History of Religion, with required readings and papers.

Second Semester.—The History and Development of Christian Missions.

The main text in this course will be Warneck's History of

Protestant Missions, which will be accompanied by lectures and required readings in selected mission history and literature.

F—*Comparative Religions and the History of Christian Missions.*

2 hours.

Hours to be arranged.

Professor LITTLE.

This course is given in Garrett Biblical Institute.

Major: Ten year-hours.

Minor: Six year-hours.

For *Greek New Testament*, see under Greek (Course N).

For *Hebrew Old Testament*, see under Hebrew (Courses A and B).

For *History of the Christian Church*, see under History (Course L).

BOTANY.

A—*Biology of Plants.*

4 hours.

Mondays, Wednesdays, 2-4; Tuesdays, Thursdays, 2.

Professor ATWELL, Miss JEWELL, and Miss STURGEON.

The course covers the biology, morphology, and life-cycles of typical plants selected from the more important natural groups. Ecology and classification receive special attention during the month of May. Laboratory and field work, with quizzes and informal lectures. Atkinson's *Elementary Botany*.

B—*Flowering Plants.*

3 hours.

Mondays, Wednesdays, Fridays, 8-10.

Professor ATWELL and Miss STURGEON.

First Semester.—Histology and general morphology of the more common orders of flowering plants.

Second Semester.—Organography, classification and ecology of the following plants.

C—*Physiology of Plants.*

3 hours.

Mondays, Wednesdays, Fridays, 10-12.

Professor ATWELL and Miss JEWELL.

The course is experimental, and should be preceded by one

course in botany or general biology. Course A in Chemistry is also very desirable.

Courses A, B, and C constitute a good preparation for teaching botany in secondary schools.

D—*Cryptogamic Botany.*

2 hours.

Tuesdays, Thursdays, 10-12.

Professor ATWELL.

Comparative morphology of ferns, mosses, algæ, mushrooms, and toadstools. Laboratory work, lectures, and field work. No text-book. Books of reference are provided. Should be preceded by Course A, or an equivalent. May be taken with Course C or B. Not given in 1903-4.

E—*Bacteria; Yeast; the Lower Fungi.*

2 hours.

Tuesdays, Thursdays, 10-12.

Professor ATWELL.

The cultivation in artificial media of bacteria of air, water, milk, and ice; the study of their physiology, morphology, and relation to fermentation and putrefaction. The study of yeast in relation to fermentation; and of the lower fungi, as slime-moulds, fruit-moulds, mildews, and rusts in their relations to plant life.

Open to those who have completed Botany A or Zoölogy A and an elementary course in Chemistry. Alternates with course D. Given in 1903-4.

PRIMARILY FOR GRADUATES.

F—*Advanced Physiology of Plants.*

2-5 hours.

Hours to be arranged.

Professor ATWELL.

Extended experimental work upon definite physiological problems.

Open to students who have completed courses A, B, and C, and an elementary course in Chemistry.

G—*Special Problems in Plant Life.*

3-5 hours.

Hours to be arranged.

Professor ATWELL.

Open to students who have completed the major require-

ment in Botany or Biology. Problems involving original investigation will be assigned to suit the needs of individual students.

Major: Course A and six additional year-hours.

Minor: Course A and three additional year-hours.

CHEMISTRY.

A—*General Chemistry.* 4 hours.

Section I. Tuesdays, Wednesdays, Thursdays, 1:30-4.

Section II. Mondays, Fridays, 1:30-4.

Tuesdays, Thursdays, 1:30-2:30.

Professor YOUNG and Mr. PEARCE.

Lectures and laboratory work, which includes in the last of the course the introduction to Qualitative Analysis.

B—*Qualitative Analysis continued, and Organic Chemistry.*

4 hours.

Mondays, Fridays, 1:30-4; Wednesdays, 1:30-4:30.

Professor YOUNG and Mr. PEARCE.

Lectures, text, and laboratory work; the Organic Chemistry begins in January after the recess.

Open to those who have completed Course A.

C—*Quantitative Analysis: First Semester, Gravimetric; Second Semester, Volumetric.*

4 hours.

Tuesdays, Thursdays, 1:30-4:30; Wednesdays, 10-12.

Professor YOUNG and Mr. PEARCE.

Open to those who have completed Course A.

D—*Problems in the Application of Qualitative and Quantitative Analysis.*

2 hours.

Tuesdays, Thursdays, 10-12.

Professor YOUNG and Mr. PEARCE.

First Semester.—Examination of water, mainly from the sanitary standpoint.

Second Semester.—Examination of milk, butter, and other fats and oils.

An alternative topic is iron and steel analysis.

Course D is open to those who have completed Courses A, B, and C.

E—*Advanced Course.*

2 hours.

Professor YOUNG.

Students in D and others are offered an additional course of reading on somewhat advanced topics. The work has been based on Ostwald's Outlines of General Chemistry.

Major: Courses A, B, and C.

Minor: Courses A and B.

ECONOMICS, FINANCE, AND ADMINISTRATION.

GENERAL STATEMENT.

Courses A, C, and G in Economics require no introductory course, and any two of them may be taken together; but those who desire to take advanced courses in the subject should take Course A as a first course. Course F is supplementary to Course C and should be taken with that course. Those wishing to make a major in this department (ten year-hours) should begin the work in their second year in college, *but no student will be admitted to any of the courses until he has thirty hours of college credit*, except by special permission of the instructor in charge. Those desiring to specialize in Economics should have a good knowledge of general history, which may be gained in Course AB in History. History BC is recommended for those who take Economics D or H, History CD for those who take Economics B, and History G for those who take Economics C.

✓ A—(1) *Economic Theory* and (2) *The Economics of Transportation*. 3 hours.

Mondays, Wednesdays, Fridays, 10.

Professor GRAY.

First Semester.—An introductory and elementary course in Economic Theory. Recitations, lectures, and frequent written tests.

Walker's Political Economy (advanced course) is used as the chief text.

Second Semester.—Transportation. An elementary course in the theory and history of transportation. The modern era of turnpikes and canals. The development of the railroad, including the organization, management and consolidation of corporations, the question of rates and of public control, state and federal. The railroad as a prime factor in the development of commerce and industry. Hadley's Railroad Transportation and the Reports of the Interstate Commerce Commission are used as guides.

AB—*The Development of Economic Theory in the Nineteenth Century.* 2 hours.

Wednesdays, Fridays, 10.

Assistant Professor GEORGE.

The purpose of this course is to acquaint the student with the theory and literature of Economics during the nineteenth century. Especial attention will be given to the later developments of the subject and to the training of the student in the critical consideration of economic principles and the analysis of economic conditions. As a preliminary study to the period the important chapters in Adam Smith's *Wealth of Nations* and the opening chapters in Malthus's *Essay on Population* will be read and discussed; after which the leading features of the contributions made by Ricardo, Mill, and Cairnes, and some of the later writings of the German economists will be considered. Theories of value, diminishing returns, rent, wages, interest, profit, the incidence of taxation, the value of money, international trade, and monopoly price will be examined. In the second half-year especial attention will be given to the theory of distribution as developed in Marshall's *Principles of Economics*, Böhm-Bawerk's *Positive Theory of Capital*, Taussig's *Wages and Capital*, and Clark's *Distribution of Wealth*.

The course will be conducted by lectures and discussions and is open to those who have taken Course A or an equivalent.

B—*Administration.*

2 hours.

Wednesdays, Fridays, 8.

Professor GRAY.

A course in administrative law and the comparative theory and history of administration of the leading modern nations. The course will treat of the general field of administrative study and the nature of administrative law, the comparative central administration of the leading countries, together with a study of the legal relations existing between the different organs of administration. Special attention will be paid to the organization and functions of the diplomatic and consular services of the different countries, and to the civil service reform movement in the United States. Questions of local administration, with special reference to the organization and administration of cities in the chief modern countries, are emphasized.

Goodnow's Comparative Administrative Law is used as the chief guide. Frequent references are made to the decisions of the courts on administrative matters.

✓ C—*Modern Industrial and Commercial History.* 3 hours.

Mondays, Wednesdays, Fridays, 11.

Professor GRAY.

The Industrial and Commercial History of Western Europe and America since the middle of the eighteenth century. The effects of modern inventions and political changes on trade and industry. The economic effects of the formation of the *Zollverein*, the adoption of Free Trade by England, the discovery of gold in California and Australia, the American Civil War, and the rapid extension and consolidation of the means of transportation. The effects of political changes in establishing new lines of trade and new centers of industry. The Spanish-American War, the increased supply of gold within the last decade and the effects of concentration in the control of industry receive special attention. The course is conducted by lectures, with prescribed topical readings. One written report of considerable length is required each semester.

Course C requires no previous training in Economics.

CD—*Early English Economic History.* 2 hours.

Tuesdays, Thursdays, 2.

Dr. WILLARD.

The chief subjects considered during the course are: The industrial and commercial history of England from the period of the Norman Conquest to the Industrial Revolution; the mediæval, agricultural, and industrial conditions; the organization and functions of the mediæval guilds; England's foreign trade during the Middle Ages; the decline of the mediæval system of agriculture and of industry, and the rise of a national commercial policy; the Tudor industrial and trade regulations and the struggle for colonies.

Not given in 1903-04.

D—*Finance: Money and Banking.* 3 hours.

Mondays, Wednesdays, Fridays, 9.

Assistant Professor GEORGE.

First Semester.—*Public Finance*, with especial reference to

modern systems of taxation. Objects and methods of public expenditure; equilibrium of the budget; public loans; the relation of public financing to private economy. In taxation a comparative study is made of the various systems in leading modern countries; and in the United States, the relation between existing methods of taxation and the present industrial organization is given especial attention.

Second Semester.—*Money and Banking.* The evolution of money; the standards of various countries, together with an historical survey of the different kinds of money used in the United States; banking functions in the modern business world; clearing houses and systems of credit and their relation to the trade and industry of the country, receive especial consideration.

During the first semester Adams's Science of Finance is used, and during the second semester Dunbar's Theory and History of Banking and the report of the Monetary Commission serve as guides. The class-room work of the second semester is supplemented by visits to some of the great commercial institutions in Chicago, such as the Chicago Board of Trade, the Chicago Clearing House, and leading banking establishments. Brief written reports on selected topics are required.

E—Seminary.

~~6~~ 6 hours.

Tuesdays, 2-4 (October 1 to May 1).

Professor GRAY and Assistant Professor GEORGE.

The seminary is open to graduates and to a limited number of undergraduates who seem to the instructors prepared to make original investigations. No one will be allowed to register for less than three hours a week *throughout the year*. An undergraduate may not register for more than three hours except by permission of the Faculty.

Room 20 in the Library building, containing a considerable library and a table, with lock-drawer for each student, is set apart for the exclusive use of the members of this seminary.

Subjects for investigation can be definitely announced only after consultation with those who expect to take the work, the greatest liberty of choice being allowed each student.

The subjects for the current year (1903-4) are: (1) "Employers' Liability for Industrial Accidents in the United States," and (2) "A Study of Child Labor in Chicago."

✓ F—*Commercial Geography and International Trade.* 1 hour.

Mondays, 8.

Professor GRAY.

A general survey of modern commerce. The mechanism, organization, and instruments of international trade; the factors determining the values of commodities: the points of origin and methods of producing and preparing for the market and transporting the more important articles entering into the commerce between nations; the relation of the government and of centers of production to national commercial supremacy.

Chisholm's Hand Book of Commercial Geography is used in connection with government publications on trade and industry.

Course F is supplementary to Course C and may well be taken in connection with it.

No credit will be given in Course F until the work of the year is completed.

G—*The Labor Question in Europe and the United States.*

3 hours.

Mondays, Wednesdays, Fridays, 8.

Assistant Professor GEORGE.

The purpose of this course is to acquaint the student with the economic condition of the working-classes in Europe and the United States and to discuss the relation of labor organizations to capital in the production and distribution of wealth. There is a careful study of the rise and growth of labor organizations, and of the fiscal and industrial organization of capital; the development of the labor contract, and of collective bargaining; state and private efforts for the prevention and the adjustment of industrial disputes; methods of industrial remuneration; the shorter working day; workingmen's insurance; employers' liability and compulsory compensation acts; provident institutions, such as savings banks, friendly societies, and fraternal benefit orders; and the problem of the unemployed. During the year excursions are made to some of the leading mills and factories and to representative tenement-house and sweat-shop districts in Chicago.

This course requires no previous training in Economics.

H—*Financial and Tariff History of the United States.* 2 hours.

Tuesdays, Thursdays, 8.

Assistant Professor GEORGE.

First Semester.—*The Financial History of the United States.* A comprehensive review is made of the subject from 1789 to the present time, with special study of Hamilton's financial system, the struggle concerning the second Bank of the United States, and of the finances of the Civil War and the period of suspended payments.

Bolles' Financial History, 1789-1860, and Noyes' Thirty Years of American Finance are used as guides.

Second Semester.—*The Tariff History of the United States.* The economic condition of the country prior to the Revolution and the commercial relations of the colonies to the mother country are discussed. Then a study is made of the successive tariff acts and their influence upon domestic industry and upon commerce and international trade. Especial emphasis is laid upon the period following the Civil War, and careful consideration will be given to the more recent development of the subject as a result of the Spanish-American war.

Taussig's Tariff History of the United States and Taussig's State Papers and Speeches on the Tariff are used as general texts.

Major: Course A or G and seven additional year-hours.

Minor: Course A or G and three additional year-hours

Those making a major in Economics are recommended to make a minor in History.

COURSES PREPARING FOR BUSINESS AND THE PUBLIC SERVICE.

Students who are preparing for a business career or for the public service will find ample opportunities for study along lines helpful to them in the departments of Economics and History. The program of required studies for any Bachelor's degree is such that the student may devote nearly the whole of the third and fourth years of the course to special study in these departments, and he may also give some time to work in these departments in the second year.

If registered for the degree of Bachelor of Science the required studies will include both French and German, and students planning for business or for the public service are advised in any case to secure a good reading knowledge of both of these languages. An acquaintance with the elements of at least two sciences should also be secured.

After the introductory courses in the two departments of Economics and History, in which he will best make his major and minor, the student will find Courses D, F, and H in Economics more intensive, offering special advantages for those preparing for a business or commercial career; while Course B in Economics and Course H in History are especially valuable for those who wish to prepare for the public service. The Seminary Course in either department offers to advanced students opportunity for original and detailed investigation of special subjects.

In addition to the advantages offered in this program of studies, students have the advantage of public lectures delivered at the University by representative men of practical experience in the commercial world and in public administration.

ELOCUTION.

A—*First Course.*

2 hours.

Section I. Mondays, Wednesdays, 4.

Section II. Tuesdays, Thursdays, 4.

Professor CUMNOCK.

Russell's Manual of Elocution and Cumnock's Choice Readings are used. Instruction is given in the management and regulation of the breath; the proper use of the body in the development of vocal energy; the most advanced knowledge of English Phonation; the most approved methods of acquiring distinct articulation; the function of the natural and orotund voices; the application of force, stress, pitch, rate, quantity, and emphasis, and their importance in the dynamics of expressive speech; the use of inflection for the purpose of emphasis and melodious effect; the fundamental principles of gesture and their application.

B—*Study of Masterpieces of English Eloquence.*

2 hours.

Section I. Tuesdays, Thursdays, 8.

Section II. Wednesdays, Fridays, 8.

Professor CUMNOCK.

The chief object in Course B is to establish the student in the best literary and elocutionary form, by bringing him in contact with the most perfect models. In the second semester of this course the English of Shakespeare will be studied with the help of Abbott's Shakespearian Grammar.

C—*Principles of Vocal Expression.* 2 hours.

Mondays, Fridays, 9.

Professor CUMNOCK.

Course C is designed especially for the year of graduation. Great stress will be laid upon the acquisition of perfect form in common reading and oratorical address. The written productions required each semester will be carefully examined, and whenever needed, the class instruction in English style will be supplemented by personal advice and criticism.

D—*Bible, Hymn, and Liturgic Reading.* 2 hours.

Mondays, Fridays, 11.

Professor CUMNOCK.

As a result of the work in Course D, it is expected that the student will have the skill to read, with melodious effect and expressive power, the Bible, hymn book, and liturgy.

ENGINEERING. See under Physics.

ENGLISH LANGUAGE.

A—*Rhetoric; Synonyms. Eight Essays.* 3 hours.

Mondays, Wednesdays, Fridays.

Eleven sections, at 8, 8, 9, 9, 10, 10, 10, 11, 11, 2, 2.

Professor CLARK, Dr. KELLOGG, Mr. ODELL, and Mr. CHURCHILL.

First Semester.—A practical drill in the avoidance of the common violations of good style.

Second Semester.—Rhetorical imagery and synonyms.

All students, unless excused by the registration committee, will take English Language A during their first year in residence. Students who show, early in the first semester, that they are seriously deficient in elementary English, will be required to take additional work in this subject for such

time as may be found necessary. No credit will be given for any part of the course till the whole course, including the additional work already mentioned, shall have been completed.

B—*Prose Masterpieces; Paragraphing.* 2 hours.

Two Sections. Tuesdays, Thursdays, 9, 10.

Professor CLARK.

First Semester.—A study of the diction and the distinctive characteristics of twenty-four great writers of prose.

Second Semester.—Paragraphing. Each member of the class writes two themes a week.

Open to those who have completed Course A.

C—*Versification; Poetic Masterpieces.* 2 hours.

Wednesdays, Fridays, 9.

Professor CLARK.

First Semester.—A study of the mechanics of English versification.

Second Semester.—A study of the diction and the distinctive characteristics of twenty great poets. This work begins about November 1, in the first semester.

Open to those who have completed Course A.

D—*History of the English Language; Anglo-Saxon; Early English.* 2 hours.

Tuesdays, Thursdays, 3.

Professor CLARK.

After reviewing the history of the English language, the outlines of Anglo-Saxon grammar are taken up. The larger part of the year is devoted to reading selections from fifteen pre-Chaucerian authors, from Bæda to Gower, inclusive.

Open to all students who have completed Course A and at least one course in German.

E—*Forensics.* 2 hours.

Hours to be arranged.

Professor CLARK.

The class meets in small sections, and each member debates once a week on questions previously assigned. Reading references are given and briefs required.

Open to those who have completed Course A.

F—*Editorial Writing.* 2 hours.

Wednesdays, Fridays, 10.

Professor CLARK.

Every member of the class writes two short articles a week during the college year.

Open to all who have had Courses A and B.

G—*Biblical English.* 3 hours.

Professor CLARK.

Hours to be arranged.

A course in the diction, imagery, and idiom of the English Bible. For graduates only.

H—*Longer Forms of Narration.* 2 hours.

Tuesdays, Thursdays, 4.

Mr. ODELL.

The so-called studio, or literary, method is used. Students are required to condense, analyse, and rewrite short-story masterpieces; later, to construct original stories. Much practice in developing situations and in blocking out plots; a modicum of theory.

Major: Courses A and B and six additional year-hours, which may include Greek F if not used towards a major in Greek.

Minor: Courses A and B and two additional year-hours.

ENGLISH LITERATURE.

A—*The History of English Literature.* 2 hours.

Lecture, Monday, 9.

Six Sections, Wednesdays, Thursdays, Fridays, 9, 10.

Professor THORNDIKE.

This course is intended to supply the student with the general outline and important facts of the history of literature and to serve as an introduction to the other courses in the department. Lectures, recitations, and a considerable amount of reading.

Required of all students in regular courses. Students are expected to take the course as early as the second year.

B—*The History of American Literature.* 2 hours.

Tuesdays, Thursdays, 8.

Assistant Professor CROW.

First Semester.—American Literature from 1607 to 1837.

Second Semester.—American Literature from 1837 to 1900.

C—*Chaucer.* 2 hours.

Tuesdays, Thursdays, 9.

Professor THORNDIKE.

A careful study of a large body of Chaucer's poetry.

Not given in 1903-4.

D—*Shakespeare and the Elizabethan Drama.* 3 hours.

Mondays, Wednesdays, Fridays, 11.

Professor THORNDIKE.

First Semester.—Lectures on the Pre-Shakespearian Drama and the reading of a number of plays. A careful and detailed study of three of Shakespeare's plays; for 1903-4, Richard II, King Lear, the Tempest.

Second Semester.—All of Shakespeare's plays are read in chronological order. Lectures on the development of Shakespeare's art, with especial attention to his relations to contemporary dramatists.

E—*Non-dramatic Poetry in the Sixteenth and Seventeenth Centuries.* 2 hours.

Professor THORNDIKE.

First Semester.—Spenser and his contemporaries.

Second Semester.—Milton and his contemporaries.

Not given in 1903-4.

F—*Classicism 1660-1789.* 2 hours.

Tuesdays, Thursdays, 11.

Professor THORNDIKE.

First Semester.—From the Restoration to the death of Pope, 1660-1745; Classicism in Poetry; the rise of the Essay; the development of Prose; the development of the Novel.

Second Semester.—From the death of Pope to the French Revolution, 1745-1789; the decline of Classicism; the beginnings of Romanticism.

Given in 1903-4 and in alternate years.

G—*The Romantic Movement 1789–1830.* 2 hours.

Tuesdays, Thursdays, 10.

Professor THORNDIKE.

First Semester.—Burns, Cowper, Wordsworth, Coleridge, Southey, Lamb, Hazlitt.

Second Semester.—Scott, Byron, Keats, Shelley, Leigh Hunt, De Quincey.

Given in 1903–4 and in alternate years.

H—*English Poetry in the Nineteenth Century 1830–1900.*

2 hours.

Tuesdays, Thursdays, 11.

Professor THORNDIKE.

First Semester.—Tennyson, Mrs. Browning.

Second Semester.—Browning, Matthew Arnold, Clough, the Rossettis, and other poets of the period.

Given in 1902–3 and in alternate years.

I—*English Prose from 1830 to 1880.*

2 hours.

Wednesdays, Fridays, 8.

Professor THORNDIKE.

First Semester.—Carlyle, Newman, Emerson.

Second Semester.—Matthew Arnold, Ruskin, Pater, Thackeray, Dickens, George Eliot, Meredith.

These writers are studied as representatives of the thought and life of the period. A large amount of reading is required, and papers on topics suggested by the course.

Given in 1902–3 and in alternate years.

J—*The Development of the Novel in English.*

2 hours.

Tuesdays, Thursdays, 9.

Assistant Professor CROW.

First Semester.—Mediæval and Elizabethan prose narratives; the classic novelists.

Second Semester.—Study of selected nineteenth-century novels; the short story.

Major : Course A and eight additional year-hours, which may include English Language D.

Minor : Course A and four additional year-hours.

GEOLOGY.

V A—*General Geology; Physiography.* 3 hours.

Mondays, Wednesdays, Fridays, 10.

Professor GRANT.

A general introduction, including dynamical, structural, and historical geology, followed by physiographic geology and the physiography of the United States. Lectures, recitations, readings, and the study of specimens, maps, and models.

In this course, and in the other courses in geology, part of the work consists of excursions taken into the adjacent country for the study of geological phenomena in the field.

A knowledge of the elements of chemistry and physics will be advantageous to those taking courses in geology, and will be necessary for those who take a major in geology.

Course C may be taken conveniently in connection with Course A.

AA—*Geology and Physiography.* 2 hours.

Professor GRANT.

This course is intended for teachers, and not for regular college students. It will be given in 1903-4, provided a sufficient number desire it, at such hours as may be agreed upon.

V B—*Economic Geology.* 2 hours.

Tuesdays, Thursdays, 11.

Professor GRANT.

The materials of economic importance obtained from the earth's crust are to be studied from the standpoints of geological relations, origin, geographical distribution, exploration, use, etc. The chief subjects considered are coal, natural oil, and gas, building materials, soils, ores of the important metals (such as iron, copper, lead, zinc, silver, gold), and water supply.

Open to those who have completed Geology A or Mineralogy A. The second semester of Course B may be taken without the first.

C—*Practical Geology.* 2 hours.

Tuesdays, Thursdays, 10.

Professor GRANT.

A more extended study of important topics of dynamical and structural geology; methods of geological work; preparation of a geological and topographical map of a small area. Owing to the nature of the work, part of the time devoted to this course must be given on afternoons or Saturdays instead of at the hours mentioned above.

Open to those who are taking or who have completed Course A. The second semester of Course C may be taken without the first.

D—*Paleontology; Historical Geology.*

2 hours.

Hours to be arranged.

Professor GRANT.

First Semester.—Paleontology. A discussion of the principles of paleontological geology and a study of the more important groups of fossils.

Second Semester.—Historical Geology. A study of historical geology, with special reference to the stratigraphy of the United States, the development of the North American continent, and the life characteristic of the different periods.

Open to those who have completed Course A.

E—*Petrology; Elementary Course.*

3 hours.

Mondays, Wednesdays, Fridays, 2-4.

Professor GRANT.

The first part of the course is devoted to the study and determination of the common rock-forming minerals by means of the petrographical microscope, and the second part is devoted to the study of the more important rocks.

Open to those who have completed Geology A or Mineralogy A.

NOTE:—It is expected that of Courses B, D, and E not more than two will be given in any one year. Students desiring to take any of these three courses should consult with the instructor before registering.

F—*Advanced Course.*

Hours and time to be arranged.

Professor GRANT.

Students who have completed certain of the preliminary courses may take up the study of some particular phase of geology, or of the geology of some particular district.

G—*Primarily for Graduates.*

Hours and time to be arranged.

Professor GRANT.

Graduate work is offered along the following lines: (a) *Advanced Petrology*. (b) *Pre-Cambrian Geology*. A study of the principles and methods used in investigating the non-fossiliferous rocks, followed by a study of the geology of the Lake Superior region with special reference to the formations which contain the extensive deposits of copper and iron ores. (c) *Research Work*. Investigating along certain lines, especially the geology of some particular district.

It is expected that work along *both* (a) and (b) above will not be given in one semester, while work under (c) may be carried on at any time.

Major: Course A and seven additional year-hours which may include Mineralogy A.

Minor: Course A and three additional year-hours.

GERMANIC LANGUAGES AND LITERATURES.

AA—*Elementary Course.*

5 hours.

Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, 2.

Mr. EDWARD.

Pronunciation, grammar, selections in prose and verse, German composition. Open to those who have less than 15 year-hours of college credit.

This course may not be taken to remove language requirements for admission.

AB—*Elementary Course.*

4 hours.

Mondays, Tuesdays, Thursdays, Fridays.

Two sections, 8, 10.

Professor CURME. Dr. SIMPSON.

Pronunciation, grammar, selections in prose and verse, German composition.

This course may not be taken to remove language requirements for admission.

(b)—*Elementary Course, Second Unit.* 4 hours.

Mondays, Tuesdays, Wednesdays, Thursdays.

Two Sections, 8, 10.

Miss CARAWAY.

Grammar, reading, German composition. Open to those students who have offered but one unit of German for admission to college.

A—*Intermediate Course.* 4 hours.

Tuesdays, Wednesdays, Thursdays, Fridays.

Three sections, 9, 10, 11.

Dr. SIMPSON. Mr. EDWARD.

First Semester.—Lessing's Minna von Barnhelm and Emilia Galotti; German lyrics and ballads; Schiller's Wilhelm Tell; German composition once a week.

Second Semester.—Lyrics and ballads; Schiller's Maria Stuart; Goethe's Hermann und Dorothea; German composition.

Open to those who offer two units of German for entrance, and to those who have completed AA or AB.

BB—*Classical Prose and Poetry; Composition.* 4 hours.

Mondays, Tuesdays, Thursdays, Fridays, 11.

Dr. SIMPSON.

Lessing, Goethe, Schiller, Heine and Grillparzer.

This course is planned especially for those students who have had three years' secondary work in German.

B—*Goethe's Life and Works, 1749-1790.* 3 hours.

Mondays, Wednesdays, Fridays.

Two sections, 8, 11.

Professor HATFIELD. Professor CURME.

First Semester.—Dichtung and Wahrheit, Goetz von Berlichingen, Werther, and the earlier lyrics. Study of the life of Goethe, for which purpose the possession of Heinemann's Goethe is very desirable.

Second Semester.—Lyrics, Egmont, Iphigenie, Tasso, Italienische Reise.

Course H may suitably be combined with this course.

Open to those who have taken Course A or BB. Course B may be taken a second time, with new subject matter, for a credit of two hours.

C—*German Literature.*

3 hours.

Mondays, Wednesdays, Fridays, 3.

Professor HATFIELD.

First Semester.—Volkslied and Kirchenlied.

Second Semester.—The Romantic Movement and the Swabian School.

Open to those who have completed Course B. The ability to interpret German works by an effective oral rendition of the original, as well as to take lectures delivered in German, is presupposed.

D—*Goethe and Schiller.*

3 hours.

Mondays, Wednesdays, Fridays, 3.

Professor HATFIELD.

First Semester.—Goethe's life and works, 1790-1832.

Second Semester.—Schiller's life and works.

Open to those who have completed Course B, under the conditions mentioned under Course C.

Not given in 1903-1904.

E—*Advanced Group.*

2 hours.

Saturdays, 8:30-10.

Professor HATFIELD.

The themes considered will be those described under Course C, the distinction being made that the students enrolled under E will be engaged in more special studies upon the points treated, with the help of the abundant literature contained in the libraries which are accessible. This course, which is given on the seminary plan, is intended chiefly for graduate students, and in all cases enrollment will be at the discretion of the instructor. As far as opportunity allows, suitable original work will be brought to publication.

F—*Goethe's Life and Works, 1749-1790.*

2 hours.

Tuesdays, Thursdays, 3.

Dr. SIMPSON.

Open to those who have had Course B.

G—*Colloquial German.*

1 hour.

Tuesdays, Thursdays, 9.

Mr. EDWARD.

Meissner's German Conversation, Kron's German Daily Life, and other material. Open to all who have had one year's German, and to others by special permission. The two hours' recitation count as one hour in term-credits.

H—*Advanced German Composition.*

2 hours.

Mondays, Wednesdays, 8.

Mr. EDWARD.

Von Jagemann's Syntax and Prose Composition; White's Selections for German Prose Composition with specially assigned original work. International correspondence with students living in Germany. Open to those who have had Course A, or its equivalent.

J—*Modern German Drama.*

2 hours.

Tuesdays, Thursdays, 4.

Professor CURME.

Two courses in Modern German Drama are given under this heading in alternate years. The aim is to present a general outline of German life in the nineteenth century as reflected in the drama, exclusive of the classical works of Goethe and Schiller. The character of the several periods, the formative influences at work, the lines of literary development, are carefully traced in the form of lectures, but the main work consists in reading and studying a large number of representative masterpieces in order that the student may receive the pleasure and benefit of direct acquaintance with the literature.

(a) First Half of the Century. Heinrich von Kleist, Grillparzer, Raimund, Gutzkow, Hebbel, Otto Ludwig.

Given in 1902-1903, and in alternate years.

(b) Second Half of Century. Anzengruber, Wildenbruch, Sudermann, Hauptmann, Fulda, Georg Hirschfeld, Otto Ernst.

Given in 1903-1904, and in alternate years.

K—*Gothic and Old High German.*

4 hours.

Hours to be arranged.

Professor CURME.

First Semester.—Gothic. Streitberg's *Gotisches Elementarbuch*, Stamm-Heyne-Wrede's *Ulfilas*, Uhlenbeck's *Wörterbuch der gotischen Sprache*, and Grienberger's *Untersuchungen zur gotischen Wortkunde*.

The study of Gothic lies at the very base of the thorough study of all Germanic languages, and hence is fundamentally essential to all students who intend to study German or English historically. The phonology and inflectional systems of the language are carefully studied to secure a good basis for future work. About one hundred pages of Gothic text are read. Daily exercises in etymology, word-formation, vowel gradation, application of Grimm's and Verner's laws, etc.

Second Semester.—Old High German. Braune's *Althochdeutsche Grammatik* is studied carefully to secure a good basis for the study of the growth and development of High German. Braune's *Althochdeutsches Lesebuch* is translated into the modern idiom, accompanied by the study of the photographic reproductions of the old manuscripts of this period in Ennecerus' *Die ältesten deutschen Sprachdenkmäler* and Hench's *Der althochdeutsche Isidor*. Daily discussion of language and literary questions.

L—*Middle High German; Old Saxon; Comparative Grammar.*
4 hours.

Hours to be arranged.

Professor CURME.

First Semester.—The study of the growth and development of High German begun in Course K is continued here. The work is based upon Michels' *Mittelhochdeutsches Elementarbuch* and the study of the texts read. On account of the beauty of the classics of this period and the valuable pictures they give of the life of the Middle Ages, more attention is paid to literature for its own sake than in the older periods, where language questions claimed relatively more consideration. The following masterpieces are read: Zarncke's edition of the *Nibelungenlied*, in connection with a brief comparative study of other texts of this epic; Hartmann von Aue's *Iwein*; Walther von der Vogelweide's poems.

Second Semester.—Old Saxon. Comparative grammar.

(a) OLD SAXON. Holthausen's *Altsächsisches Elementarbuch*, Behaghel's *Heliand* accompanied by the study of the photographic reproductions of the old manuscripts of this period in Gallée's *Facsimilesammlung*. (2 hours weekly.)

(b) COMPARATIVE GRAMMAR. The phonology and inflec-

tional systems of the Germanic languages are compared with one another and those of other languages of the Indo-European family. Streitberg's *Urgermanische Grammatik*, Hirt's *Der Indo-Germanische Ablaut* and Dieter's *Altgermanische Dialekte* are used as texts. (2 hours weekly.)

M—*Icelandic (Old Norse)*.

2 hours.

Hours to be arranged.

Dr. SIMPSON.

Kahle's *Altisländisches Elementarbuch*. Selections from the Younger and Elder Edda. Text-books: Hildebrand's *Lieder der älteren Edda*; Gering's *Glossar zu den Liedern der Edda*; Noreen's *Altnordische Grammatik*.

For advanced and graduate students; the course to be given provided not less than three students elect the same.

For Norwegian-Danish and Swedish, see the catalogue under these heads.

Major: Courses A (or BB) and B and six additional year-hours.

Minor: Courses A (or BB) and B.

Courses B, G, and H should be taken by all who intend to become teachers of German in secondary schools.

GREEK LANGUAGE AND LITERATURE.

AA—*White's First Greek Book Complete and the First Book of Xenophon's Anabasis. Greek Composition.* 5 hours.

Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, 10.

Professor SCOTT.

This course may not be taken to remove language requirements for admission.

AB—*Xenophon's Anabasis, Books II, III, IV. Thirty lessons in Greek Composition, Homer's Iliad, three books.* 5 hours.

Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, 8.

Professor SCOTT.

Courses AA and AB are designed for students who, entering college without Greek, desire to take up that study and complete the requirements for the degree of A. B.

A—*Lysias, Select Orations. Homer. Plato's Apology. Greek Composition based on the text.* 4 hours.

Tuesdays, Wednesdays, Thursdays, Fridays, 11.

Professors BAIRD and SCOTT.

B—*Xenophon's Memorabilia of Socrates. Sophocles' Antigone. Plato's Gorgias. Euripides' Medea.* 3 hours.

Mondays, Wednesdays, Fridays, 10.

Professor BAIRD.

C—*Selections from Lyric Poets. Æschylus' Prometheus Bound. Aristophanes' Clouds. Euripides' Bacchæ.* 2 hours.

Tuesdays, Thursdays, 3.

Professor SCOTT.

D—*Demosthenes on the Crown. Selections from Plato's Republic. New Testament. Lucian.* 2 hours.

Professor BAIRD.

Not given in 1903-1904.

F—*History of Greek Literature from Homer to Greek Church Fathers.* 3 hours.

Mondays, Wednesdays, Fridays, 3.

Professor BAIRD.

This course consists of lectures, and recitations based on translations. No knowledge of Greek is required. The aim is to secure familiarity with the great masterpieces of Greek literature. The course is especially important to those who expect to become teachers of literature.

Open to all students who have completed thirty hours.

G—*Homer and Epic Poetry.* 4 hours.

Not given in 1903-1904.

Professor SCOTT.

The full text of Homer will be read.

Students will prepare papers on assigned topics.

H—*Herodotus and Greek Lyric Poetry.* 4 hours.
Hours to be arranged.

Professor SCOTT.

N—*The Gospels according to Luke and John. The Acts of the Apostles.* 4 hours.
Tuesdays, Wednesdays, Thursdays, Fridays, 10.

Professor HAYES.

This course is given in Garrett Biblical Institute.

Major: Courses A and B and five additional year-hours, not including Course N.

Minor: Courses A and B.

HEBREW.

These courses are given in Garrett Biblical Institute.

A—*Elements of Hebrew Language.* 4 hours.
Tuesdays, Wednesdays, Thursdays, Fridays, 9.

Mr. RAPP.

B—*Introduction to Hebrew Literature.* 2 hours.
Wednesdays, Fridays, 9.

Professor EISELEN.

First Semester.—Selections from poetic (including wisdom) literature.

Second Semester.—Prophetic literature.

C—*Graduate Courses.*

Time and credits to be arranged.

Professor EISELEN.

I. Studies in Isaiah.

II. Seminars (1) Study of Hosea, (2) Historic background of Old Testament prophecy.

III. Assyrian grammar and easy historical texts.

Minor: Courses A and B.

HISTORY.

NOTE:—The alphabetical arrangement of courses in this department does not signify the order in which they shall be taken. In general, AB is regarded as an introductory course to the whole field of history, but either A, C, or BC may be chosen as a first course. D, E, and F, may be taken most profitably in the order named. G may be elected by those who have sixty semester-hours credit; other students who desire to take this course must receive permission from the instructor in charge. L should be preceded by AB. The usual method of conducting the courses in History is by lectures, collateral reading, and text-books.

AB—*General History.*

3 hours.

Mondays, Wednesdays, Fridays, 10.

Assistant Professor WILDE.

This course is designed to give a general view of the field of history to 1789. It will serve as an introduction to the national histories, or to an intensive study of the periods of history.

First Semester.—To the Renaissance.

Second Semester.—To 1789.

No credit can be given for the first semester of this course to those students who have already taken Courses D and E; nor in the second semester to those who have had Courses F and G.

A—*English History.*

3 hours.

Mondays, Wednesdays, Fridays, 3.

Dr. WILLARD.

English political history from the Anglo-Saxon period to the present day. In addition to the strictly political history of England, the development of governmental institutions and the condition of the church will receive some attention.

B—*English Constitutional History.*

2 hours.

Wednesdays, Fridays, 2.

Dr. WILLARD.

The constitutional history of England from the Anglo-Saxon period to the present day. The course is designed to show the historical development of the modern English government, with especial reference to Parliament. Intended especially for those students who expect to study law.

Open to all who have sixty semester-hours credit, after consultation with the instructor in charge.

C—*Colonial and Constitutional History of the United States.*

2 hours.

Tuesdays, Thursdays, 3.

Professor SHEPPARD.

First Semester.—Settlement of the Colonies, French and Indian War, and the Revolution.

Second Semester.—Constitutional History of the United States

Not given in 1903-1904.

BC—*American History.*

3 hours.

Mondays, Wednesdays, Fridays, 11.

Professor JAMES.

The Political History of the United States from the Revolution. The formation of the Union, the rise and growth of parties, the influence of westward expansion and of slavery on the political life.

CD—*Modern Constitutional Governments.*

2 hours.

Tuesdays, Thursdays, 9.

Dr. WILLARD.

The object of this course is to acquaint the student with the leading features of the Constitution of the United States and of the more important European nations. The organization of the government of the United States will be thoroughly studied in the light of the Constitution and will be used for the purpose of comparison with other governments.

Not given in 1903-1904.

D—*Greek and Roman History.*

2 hours.

Tuesdays, Thursdays, 8.

Assistant Professor WILDE.

First Semester.—History of Greece from the earliest times to the Roman Conquest. Constant use of the library for the literature of the subject; reports on reading.

Second Semester.—History of Rome from the earliest times to the fall of the empire in the West. Assigned reading with reports on same, submission of a thesis.

Either semester of this course may be taken without the other.

E—*Continental Europe during the Middle Ages.*

3 hours.

Mondays, Wednesdays, Fridays, 8.

Assistant Professor WILDE.

This course is intended to furnish an outline of the history of Europe from the fall of Rome to about the middle of the thirteenth century. It deals with the political, religious, and intellectual development of the period. One thesis is required.

Open to those who have thirty semester-hours of credit.

F—*The Renaissance and the Reformation.* 2 hours.

Tuesdays, Thursdays, 10.

Dr. WILLARD.

First Semester.—The Political History of Europe from the middle of the thirteenth century to the close of the fifteenth century; the Renaissance, especially in Italy,—the intellectual development, its contacts with antiquity and the Middle Ages, and its influences on modern life.

Second Semester.—The Reformation, especially in Germany France, and England; reforming movements before the Reformation; ecclesiastical, political, and social effects of the Reformation.

Either semester of this course may be taken without the other.

Open to those who have thirty hours of credit.

G—*European History since the Outbreak of the French Revolution.* 3 hours.

Mondays, Wednesdays, Fridays, 9.

Professor JAMES.

Political History, showing the progress of Democracy, and aiming to give an understanding of the present condition of European politics.

First Semester.—Causes and Events Connected with the Period of the French Revolution and the Napoleonic Wars.

Second Semester.—The Evolution of Constitutional Government in the European States; Unification of Germany and of Italy; the Eastern Question, and Present Political Conditions.

H—*Diplomatic History of the United States.* 2 hours.

Tuesdays, Thursdays, 11.

Dr. WILLARD.

History of the foreign relations of the United States from the beginning of the Revolution to our own time. Special attention is given to the commercial treaties following the

Revolution, annexations of territory, the relations with Spanish America, and the period of the Civil War.

I—*Methods of Teaching History, with special reference to the work of Secondary Schools.* 1 hour.

Hour to be arranged.

Professor JAMES and Assistant Professor WILDE.

Open to those who make History their major and to others of suitable preparation after consultation with one of the Professors in charge.

Given only in the Second Semester.

J—*Teachers' Course.* 1 hour.

Hour to be arranged.

Professor JAMES and Assistant Professor WILDE.

This course is intended primarily for the teachers of History in the schools of Evanston and vicinity. During the year 1902-1903, the work consisted of a study of American Colonial Institutions and lectures on some of the chief subjects in Mediæval History.

University credits may be secured if arranged for at the time of registration.

L—*Church History.* 3 hours.

Tuesdays, Wednesdays, Fridays, 10.

Professor LITTLE.

Post-Nicene History of the Christian Church. Christianity within the Roman Empire; the Struggle of the Church with Paganism, with Barbarism, and with Mohammedanism; the Development of the Hierarchy; the Rivalries of the Patriarchates; the Upbuilding of the Papacy and the Growth of Monachism; the Relations of the Popes to the Byzantine, Frankish, and German Emperors; the Crusades; the Growth and Decay of Papal Power; the Monastic Schools; the Universities; the Mendicants and Mediæval Heretics; Scholasticism and Superstition; the Church and Mediæval Society; History of the Reformation and of the Modern Church.

Open to those who have had a course in General History, and have sixty semester-hours of credit.

This course is given in Garrett Biblical Institute.

PRIMARILY FOR GRADUATE STUDENTS.

K—*The Fall of Rome and the Rise of the New Nations.*

2 hours.

Hours to be arranged.

Assistant Professor WILDE.

A study of the last years of the Roman Empire, the causes of its fall, contacts of Romans and Germans, invasions of the Germans, foundation of the Germanic states on the soil of the empire, early developments in the Frankish kingdom.

Some facility in reading Latin, French, and German is required for this course.

M—*Seminary in American History.*

2 hours.

Hours to be arranged.

Professor JAMES.

Open only to those whom the Professor in charge considers qualified. One meeting of two hours each week; but each student must give sufficient time in preparation to entitle him to three hours of credit. Additional credits may be acquired if arranged for at the time of registration.

In 1903-1904, the subject for consideration will be the Diplomatic History of the United States during the administrations of Washington and Adams. Material secured from the French archives will form a basis for the work.

Major: Course AB or A or BC and seven additional year-hours.

Minor: Course AB or A or BC and three additional year-hours.

Those making a major in History are recommended to make a minor in Economics.

History Club.

Meetings are held monthly.

Papers are given by the instructors and by advanced students. Reviews of new books and other historical literature are presented.

LATIN LANGUAGE AND LITERATURE.

A—*Livy, Cicero, Terence.* 4 hours.

Mondays, Tuesdays, Thursdays, Fridays.

Four sections at 9, 10, 11, 2.

Assistant Professor LONG and Mr. OLDFATHER.

First Semester.—Livy, two books, with an additional historical selection.

Second Semester.—Cicero de Senectute; Terence, Adelphoe and Phormio.

Latin composition throughout the year; grammatical reviews

B—First Semester.—*Horace, Odes and Satires.* 3 hours.

Second Semester.—*Tacitus, Agricola and Germania.*

Section I.—Tuesdays, Thursdays, Fridays, 9.

Section II.—Mondays, Wednesdays, Fridays, 11.

Professor BONBRIGHT and Assistant Professor LONG.

With this course it is strongly advised that Greek and Roman History be included as an elective. See History, D, page 55.

C—First Semester.—*Pliny's Letters; Quintilian.*

Second Semester.—*Horace, Epistles, including the Art of Poetry.* 3 hours.

Tuesdays, Thursdays, Fridays, 10.

Professor BONBRIGHT.

Omitted in 1903-1904.

D—First Semester.—*Tacitus, Annals—Reign of Tiberius, with comparison of authorities, early and modern.*

Second Semester.—*Lyric and Elegiac Poetry, Catullus, Tibullus, and Propertius. Lectures on the origin and development of the Latin Elegy.* 3 hours.

Tuesdays, Thursdays, Fridays, 10.

Professor BONBRIGHT.

E—First Semester.—*Lucretius, three books, interpretation with lectures.*

Second Semester.—*Cicero, philosophical selections.*

2 hours.

Tuesdays, Thursdays, 11.

Professor BONBRIGHT.

F—*Latin Comedy and Satire.*

2 hours.

Tuesdays, Thursdays, 11.

Professor BONBRIGHT.

First Semester.—History of the Roman drama, lectures; Plautus, two or three plays.

Second Semester.—Satiric Poetry and Epigram—Juvenal; Martial.

Omitted in 1903-1904.

G—*Latin Literature.*

1-2 hours.

Time to be arranged.

Professor BONBRIGHT.

First Semester.—Historical Survey, interpretation of selections from representative writers.

H—*Vergil.*

2 hours.

Hours to be arranged.

Assistant Professor LONG.

First Semester.—Bucolics and Georgics; lectures will be given introductory to the general study of Vergil and the Roman Epic.

Second Semester.—Æneid entire; preparation of papers on assigned topics with lectures.

J—*Latin Composition.*

1 hour.

Fridays, 3.

Assistant Professor LONG.

This course presupposes Course A, or its equivalent, and will involve more advanced study of Syntax throughout the year.

K—*Cicero, Orations; Advanced Latin Composition.* 2 hours.

Tuesdays, Thursdays, 3.

Assistant Professor LONG.

First Semester.—Selections from the early orations of Cicero; study of rhetorical method and development of style, together with readings from the rhetorical works.

Second Semester.—Practice in writing Latin, based in part on standard prose selections. Problems of syntax are discussed and special attention given to the study of Latin prose style.

Omitted in 1903-1904.

L—*Cicero, Letters.* 2 hours.

Tuesdays, Thursdays, 3.

Assistant Professor LONG.

The study of the diction and style of Cicero and his correspondents is continued throughout the year, with a survey of Roman Epistolography.

Omitted in 1903-1904.

Major: Courses A and B, with C or D, and E or F, or an approved equivalent.

Minor: Courses A and B.

MATHEMATICS.

A—*Algebra and Plane Trigonometry.* 4 hours.

Mondays, Tuesdays, Wednesdays, Thursdays.

Seven sections at 8, 9, 10, 11, 12, 2, 3.

Professor WHITE, Dr. KEPPEL, and Mr. YOUNG.

First Semester.—Algebra, including the theory of quadratic equations, ratio and proportion, progressions, permutations and combinations, binomial theorem, logarithms and their application to interest and annuities, with an introduction to the general theory of equations and determinants. Emphasis is laid upon the use of graphs.

Second Semester.—Plane Trigonometry, including the solution of oblique triangles.

Required of all candidates for a degree, except those who elect Course AB.

AB—*Trigonometry, Algebra, and Analytical Geometry.* 5 hours.

Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, 10.

Dr. KEPPEL.

First Semester.—Plane Trigonometry and Algebra; a briefer course than is given in Course A.

Second Semester.—Plane Analytical Geometry. An elementary course on the straight line and conic sections.

Course AB may be taken by any student who has met the entrance requirements in Algebra.

AA—*Advanced Algebra.*

2 hours.

Tuesdays, Thursdays, 9.

Dr. KEPPEL.

Second Semester.—A continuation of the work in Algebra of Courses A and AB, covering the elements of the theory of equations, determinants, and irrational numbers.

Open to students who have completed the first semester of either Course A or Course AB, and recommended to all who expect to teach mathematics in secondary schools.

B—*Plane Analytical Geometry and Calculus.*

3 hours.

Mondays, Wednesdays, Fridays, 8.

Professor WHITE.

First Semester.—Plane Analytical Geometry; an elementary course on the straight line and conic sections.

Second Semester.—Differential and Integral Calculus; a brief course in formal differentiation and integration of the common functions, with applications to maxima and minima, indeterminate expressions, lengths and areas of plane curves, and volumes of solids.

Open to students who have completed Course A or its equivalent.

BB—*Differential and Integral Calculus.*

3 hours.

Mondays, Wednesdays, Fridays, 9.

Professor WHITE.

First Semester.—Theory of limits, differentiation of common functions, maxima and minima.

Second Semester.—Indefinite and definite integrals, change of variable, areas and volumes, average values of functions.

Open to students who have completed Course AB or its equivalent.

C—*Elementary Mechanics.* 3 hours.

Mondays, Wednesdays, Fridays, 9.

Professor HOLGATE.

First Semester.—Statics. Composition and resolution of forces, moments of force, general conditions of equilibrium, friction.

Second Semester.—Dynamics. Velocities and accelerations, simple harmonic motion, work, energy.

Open to students who have completed Course A or its equivalent.

D—*Theory of Equations and Determinants.* 2 hours.

Tuesdays, Thursdays, 9.

Professor HOLGATE.

First Semester.—The graph of an equation, multiple roots, symmetric functions of the roots, transformations, determinants.

Second Semester.—Solution of cubic, quartic, and cyclotomic equations; existence of a root of the general equation; insolubility of the general quintic.

E—*Solid Analytical Geometry.* 3 hours.

Mondays, Wednesdays, Fridays, 3.

Professor WHITE.

Second Semester.—An introductory course in Analytical Geometry of Three Dimensions. May be taken in the second semester as a continuation of Course B, or may be elected by students who have completed Course AB or its equivalent.

F—*Geometrical Applications of the Calculus.* 3 hours.

Mondays, Wednesdays, Fridays, 2.

Professor WHITE.

Infinitesimal Analysis applied to plane curves, twisted curves, and surfaces. Developables, evolutes, geodesic lines, curvature, congruences of lines, contact of curves and surfaces.

Not given in 1903-04.

G—*Analytical Geometry.* 3 hours.

Mondays, Wednesdays, Fridays, 8.

Dr. KEPPEL.

Open to students who have taken a previous course in Analytical Geometry. The first semester is devoted to a detailed study of the conic sections. The work of the second semester comprises systems of conics, envelopes, the principle of duality, projection, etc.

H—*Modern Synthetic Geometry.* 3 hours.

Mondays, Wednesdays, Fridays, 10.

Professor HOLGATE.

Introduction of infinitely distant elements into geometry; central projection; perspectivity and projectivity; generation of conics from projective forms; properties of ruled quadric surfaces; involution; poles and polars; systems of conics.

Open to students who have completed one year of work from Courses B, C, or BB.

J—*Definite Integrals and Differential Equations.* 3 hours.

Mondays, Wednesdays, Fridays, 11.

Mr. YOUNG.

First Semester.—Integral Calculus: Definite Integrals, with applications to surfaces, volumes, averages, and center of mass.

Second Semester.—Differential Equations, together with chapters on cycloids and other roulettes.

K—*Analytical Mechanics.* 2 hours.

Tuesdays, Thursdays, 8.

Professor HOLGATE.

A course in Theoretical Mechanics, open to students who have taken Course B or its equivalent. It includes a study of vectors, uniformly accelerated motions, simple harmonic motions and their composition, elliptic motion, central orbits, force, energy, work, etc. Not given in 1903-04.

L—*Surveying: theory and practice.* 2 hours.

Tuesdays, Thursdays, 8.

Dr. KEPPEL.

The use and adjustments of the compass, engineer's transit, solar compass and Y level; the keeping of records and plotting of observations; calculation of heights, distances, and

areas; elements of the theory of errors. Field work with the instruments will be carried on in small divisions in the fall and spring.

M—*Primarily for Graduates.* 3 hours.

Wednesday and Friday 4:30 to 6.

Professor WHITE.

First Semester.—Theory of Functions of a complex variable.

Second Semester.—Plane Curves of Third Order, and Elliptic Functions.

N—*Primarily for Graduates.* 2 hours.

Hours to be arranged.

Professor HOLGATE.

First Semester.—The synthetic treatment of linear systems of conic sections.

Second Semester.—The Theory of Numbers.

Major: Fourteen year-hours including Courses A or AB, and B or BB.

Minor: Courses A or AB, and B, BB, or C.

MINERALOGY AND ECONOMIC GEOLOGY.

A—*Mineralogy; Blowpipe Analysis.* 3 hours.

Lecture, Wednesdays, 11. Laboratory hours to be arranged between 8 and 12.

Professor CROOK.

First Semester.—Mineralogy; elements of crystallography; descriptive mineralogy, including physical properties, chemical composition, occurrence, and association of minerals; determination of minerals by physical characteristics. Dana's "Text-Book of Mineralogy."

Second Semester.—Blowpipe analysis; wet and dry methods of investigation to confirm physical determinations. Landauer's "Blowpipe Analysis."

C—*Economic Geology.* 3 hours.

Mondays, Wednesdays, Fridays, 4.

Professor CROOK.

First Semester.—A study of soils, fertilizers, abrasives, and lubricants, refractory and fictile materials, building stone, coal, mineral oil and natural gas—substances embraced under the designation of non-metallic mineral resources.

Second Semester.—Metallic mineral products—gold, silver, platinum, copper, iron, lead, zinc, mercury, and some metals of minor importance—studied in regard to their origin, geological relations, geographical distribution and use.

Tarr's "Economic Geology of the United States."

D—*Physical Crystallography.*

2 hours.

Hours to be arranged.

Professor CROOK.

Optical, thermal, magnetic, and molecular properties of crystals. Wooden and glass models, reflecting goniometer and microscope used.

Williams' "Elements of Crystallography" and Groth's "Physikalische Krystallographie."

E—*Assaying.*

2 hours.

Wednesdays, 2-6.

Professor CROOK.

First Semester.—Scorification, cupellation, parting, and weighing of gold and silver.

Second Semester.—Crucible process of precious metals, and assaying of copper, lead, and zinc.

Open to those students who have completed Chemistry A and Mineralogy A.

F—*Advanced Course.*

2 to 5 hours.

Hours to be arranged.

Professor CROOK.

A continuation of the work begun in any one of the courses in general mineralogy, blowpipe analysis, optical mineralogy, or economic geology, for the purpose of preparing the student to enter upon work of special investigation.

G—*Research Course.*

5 to 15 hours.

Hours to be arranged.

Professor CROOK.

For graduate students who have completed the requirements for major work in the department. Special investigation of

the physical and chemical properties of some mineral or group of minerals, or particular study of a region of importance from the point of view of economic geology. A full knowledge of the literature of the subject is involved and ability to use French and German is necessary.

Major: Course A and seven additional year-hours, which may include Geology A.

Minor: Course A and three additional year-hours.

MUSIC.

A—*Harmony.* 2 hours.

Mondays, Wednesdays, 3.

Professor LUTKIN.

First Semester.—Intervals, Triads, Triad Harmonization with near Modulations, Inversions, Ear-training.

Second Semester.—Harmonization with addition of Dominant and Diminished Sept-chords, Modulations, Cadence Formulas, Dictation, Chord Sequences at piano.

B—*Harmony.* 2 hours.

Mondays, Thursdays, 11.

Professor LUTKIN.

First Semester.—Collateral Sept-chords, Suspensions. Altered and Extended Chords, Tones foreign to the Harmony, Organ Point, Remote Modulations.

C—*Musical Form.* 2 hours.

Mondays, Thursdays, 11.

Professor LUTKIN.

Second Semester.—Composition of Melodies, Anglican Chants and Hymn Tunes; Song, Trio and Rondo Forms; Variations, Inventions and Suites, Sonata, Canon and Fugue.

D—*Counterpoint.* 2 hours.

Tuesdays, Fridays, 11.

Professor LUTKIN.

First Semester.—Two and Three Part Counterpoint.

Second Semester.—Three and Four Part Counterpoint, Canon, Two-part Fugues.

E—*Counterpoint.*

1 hour.

Mondays, 2.

Professor LUTKIN.

First Semester.—Counterpoint in five and more parts.

Second Semester.—Double and Triple Counterpoint, Imitation, Figured Chorals.

F—*Canon and Fugue.*

1 hour.

Hour to be arranged.

Professor LUTKIN.

Canons in the various intervals, by Inversion, Diminution, Augmentation, Retrogression, etc. Tonal and Real Fugues in two to five parts, Double Fugues.

G—*Musical History.*

2 hours.

Tuesdays, Thursdays, 3.

Professor SAIDEE KNOWLAND CO'E.

First Semester.—Primitive Music, Music of China, Japan, Africa, India and the American Indians, with illustrations; the Greek music system, early ecclesiastical styles, Polyphonic music of the Middle Ages, history of notation, analysis of the instruments of the orchestra, biographies of noted musicians.

Second Semester.—Development of the Oratorio, Illustrations from Cavaliere, Mazzochi, Carissimi, Scarlatti, Stradella; Critical analysis from Scores of Handel's "Messiah."

Development of the Opera, the Camerata, Caccini, Lully, Purcell, Comparison of Opera of Italy, France, and Germany.

Critical analyses from the scores of Wagner's Music Dramas, including the "Rheingold," "Walkyrie," "Siegfried," "Götterdämmerung," "Meistersinger" and "Parsifal."

H—*Advanced course in Choral Music.*

Mondays, Thursdays, 4:45 (half-hour periods, no credit.)

Mr. COZINE.

Open to students in the College of Liberal Arts upon payment of a special fee of three dollars a semester.

I—*Analysis.*

No credit.

Wednesdays, 11.

First Semester.—Bach's Inventions, Song Forms (principally Mendelssohn and Chopin).

Second Semester.—Fugues (Bach's Well-tempered Clavichord), Sonatas (Mozart, Haydn, Beethoven).

K—*Advanced Harmony.*

1 hour.

Thursdays, 2.

Professor LUTKIN.

Modern Harmony, Chromatic Alterations, Irregular Resolutions, and Free Use of Dissonances.

L—*Advanced Analysis.*

1 hour.

Thursdays, 3.

Professor LUTKIN.

First Semester.—Sonatas and Fugues.

Second Semester.—Symphonies.

M—*Free Composition.*

1 hour.

Hour to be arranged.

Professor LUTKIN.

First Semester.—Homophonic Forms.

Second Semester.—Sonata Forms.

N—*Instrumentation.*

1 hour.

Hour to be arranged.

Professor LUTKIN.

O—*Voice Culture in Classes.*

No credit.

Hour to be arranged.

Mr. COZINE.

Open to students in the College of Liberal Arts upon payment of a special fee of ten dollars a semester.

NOTE.—For regular courses in the School of Music and for special facilities in vocal music, reference is made to the Circular of Information of the School of Music.

NORWEGIAN-DANISH.

A—*Modern Norwegian-Danish Grammar.* 2 hours.

Hours to be arranged.

Dr. SIMONSEN.

First Semester.—Petersen's Norwegian Grammar and E. C. Otte's "How to Learn Danish" are the text-books used.

Second Semester.—Readings from Andersen and Ibsen.

This course is given in the Norwegian Theological School.

PEDAGOGICS.

A—*History of Education.* 1-3 hours.

Mondays, Wednesdays, Fridays, 4.

Professor FISK.

Lectures, readings, and discussions. Text-books: Compayré's History of Pedagogy, Quick's Essays on Educational Reformers, Munroe's The Educational Ideal, Boone's Education in the United States.

Given in 1902-1903 and in alternate years.

NOTE.—This course may be taken as a three-hour course, or as a two-hour course (Mondays and Wednesdays), or as a one-hour course (Fridays).

B—*Principles of Education.* 1-3 hours.

Mondays, Wednesdays, Fridays, 4.

Professor FISK.

Lectures, readings, and discussions. Text-books: Compayré's Lectures on Pedagogy, Payne's Contributions to the Science of Education, Eliot's Educational Reform, Tompkins's Philosophy of School Management, Lange's Apperception.

Given in 1903-1904 and in alternate years.

NOTE.—This course may be taken as a three-hour course, or as a two-hour course (Mondays and Wednesdays), or as a one-hour course (Fridays).

C—*The Great Educators.* 2 hours.

Tuesdays, Thursdays, 10.

Assistant Professor SCOTT.

Lectures, readings, and discussions.

First Semester.—English Educators: Locke, Spencer.

Second Semester.—Continental Educators: Comenius, Herbart.

D—*The Great Educators.*

2 hours.

Tuesdays, Thursdays, 10.

Assistant Professor SCOTT.

First Semester.—Continental Educators: Rousseau, Pestalozzi, Froebel.

Second Semester.—The More Recent Educators.

In Courses C and D the best works of some of the most influential educators are read by each member of the class. The material thus read furnishes the basis for lectures, papers, discussions, and recitations.

Not given in 1903-1904.

E—*Seminary.*

2 hours.

Fridays, 5.

Assistant Professor SCOTT.

Open to a limited number of advanced students. Students taking this course teach elementary classes in the Academy four or five hours a week under the instructor in charge of the course.

Weekly conferences are held for reports and discussions.

For Pedagogical Psychology see Philosophy I.

Major: Ten year-hours, including Courses A or B, and C or D, Philosophy A, and two additional year-hours in Pedagogy or Psychology.

PHILOSOPHY, PSYCHOLOGY, AND LOGIC.

NOTE.—The alphabetical arrangement of the courses exists for convenience of reference,—not to indicate the order in which they should be chosen. It is generally best to elect Course A, or Courses A and B conjointly, before the other courses, but either Course C or D or H may be taken in the same year as Course A.

A—*General Psychology; Logic.*

3 hours.

Mondays, Wednesdays, Fridays, 2.

Professor COE and Assistant Professor SCOTT.

First Semester.—Psychology. James's Psychology (Briefer Course); class-room demonstrations and guidance to private observation; demonstration of apparatus and methods of experimental psychology; written exercises from members of the class; optional work in the laboratory; lectures on various topics.

Second Semester.—Logic. An outline of both deductive and inductive logic. Special stress is laid upon the methods

of the sciences. Written exercises in the detection of fallacies and the criticism of arguments. Creighton's Introductory Logic.

B—*Elementary Experimental Psychology.* 2 hours.

Mondays, Wednesdays, 3-5.

Assistant Professor SCOTT.

Laboratory work in connection with Course A. Intended for students of general psychology who desire to become acquainted with laboratory methods, and for those who expect to pursue advanced laboratory courses. Two consecutive hours of laboratory work for one hour of credit.

C—*History of Philosophy.* 2 hours.

Tuesdays, Thursdays, 8.

Professor COE.

Text-book, lectures, dissertations, the reading of selected writings of Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, and Kant.

Open to students who have completed thirty hours of credit

D—*General Introduction to Philosophy; Popular Discussions in Philosophy.* 2 hours.

Mondays, Wednesdays, 3.

Professor COE.

First Semester.—General Introduction to Philosophy. Lectures, papers, and discussions. Intended for all who desire to learn about the nature of philosophy, its divisions, and the characteristic attempts to solve its problems.

Second Semester.—Popular discussions in philosophy. Lectures, papers, and discussions, all bearing upon the relation of philosophy to the life of our day, particularly to its science, its literature, and its social and religious aspirations.

Open to students who have completed thirty hours of credit.

Not given in 1903-1904.

E—*Philosophy of Religion.* 1 hour.

Mondays, 4.

Professor COE.

Lectures and assigned reading. No preceding study of philosophy is required for admission to this course, but each of

the courses designated A, C, D, and J furnishes helpful preparation. Credit is not given until the work of both semesters is completed.

F—*Seminary in the Psychology and Philosophy of Religion.*

2 hours.

Tuesdays, 2-4.

Professor COE.

Reading of the chief literature on the psychology of religion; collection and analysis of new data; a study of the principles of religious pedagogy; psychological prolegomena to the philosophy of religion. An introduction to research in the psychology of religion.

Primarily for graduates, but open to properly prepared undergraduates.

G—*Advanced Experimental Psychology.*

2 hours.

Hours (in the afternoon only) to be arranged.

Assistant Professor SCOTT.

This course extends the work begun in Course B into some of the more difficult problems, and introduces a limited amount of research. Two consecutive hours of laboratory work will be required for one hour's credit.

Open to students who have completed Course B.

H—*Pedagogical Psychology.*

2 hours.

Tuesdays, Thursdays, 2.

Assistant Professor SCOTT.

Open to students who have taken or are taking General Psychology.

J—*The Philosophy of Nature.*

2 hours.

Hours to be arranged.

Professor COE.

An analysis of the chief notions of the natural and physical sciences (such as law, matter, energy, life, mind), with especial reference to the theory of evolution and man's place in nature. Lectures, papers, discussions.

Open to students who have completed either course A, C, or D.

K—*Advanced History of Philosophy.*

2 hours.

Hours to be arranged.

Professor COE.

Rapid reading of important philosophical literature. The period or group of writers to be studied will be chosen from year to year according to circumstances. In addition to the reading required of the whole class, each member will make a critical study of some problem or piece of literature, and present the results in the form of a thesis.

For graduates, and undergraduates who have completed Courses A and C.

Major: Courses A and C and five additional year-hours.

Minor: Course A and three additional year-hours.

Students who select Philosophy as their major subject will do well to take Course A in their second year.

L—*Ethics.*

3 hours.

Mondays, Wednesdays, Fridays, 8.

Professor COE.

First Semester.—Ethics; analysis of the facts of conduct and of the moral development of humanity; the scientific explanation of conduct; the different views regarding the moral standard; the history of ethics with more special reference to modern times; the ethics of evolution and the ethics of idealism; the ethical movement of to-day; moral progress.

A chief feature of this course is class-room discussion, based upon the Lectures, upon the text-book, and upon the problems and difficulties of the members of the class.

Mackenzie's "Manual of Ethics."

PHYSICS.

A—*General Physics.*

4 hours.

Lectures on Mondays, Wednesdays, Fridays, 11.

See below for Laboratory hours.

Dr. TATNALL.

First Semester.—General properties of Matter, Sound, Heat.

Second Semester.—Electricity, Magnetism, Light.

Each week's work consists of two experimental lectures, one recitation, and one laboratory exercise. Ames's Theory of Physics is used as a text-book. The laboratory work is

guided by a set of instructions prepared and printed especially for this laboratory.

This course is intended for beginners. It requires no mathematics beyond that necessary for entrance to college. It is recommended as a first-year or second-year study to those contemplating the pursuit of any pure science, of engineering, or of medicine.

B—*Experimental Physics.* 4 hours.

Lectures, Tuesdays, Thursdays, 11.

See below for Laboratory hours.

Professor CREW and Dr. TATNALL.

First Semester.—Mechanics. An experimental study of Forces, Moments of Force, Moments of Inertia, Elasticity, etc., forming an introduction to advanced Physics. Worthington's Dynamics of Rotation represents the ground covered.

This is a course in pure Dynamics, and serves as an introduction to Applied Mechanics.

At the end of the first semester, students have the option either of continuing this Course B or of taking up the subject of Applied Mechanics in Course H.

Second Semester.—Light. An experimental study of the general phenomena of Refraction, Diffraction and Polarization. Spectroscopy. Photographic and micrometric study of various spectra, preceded by a special study of the spectrometer. Application of the principles of Diffraction and Interference to the Grating, the Telescope, and other optical instruments.

Each week's work consists of two lectures and two laboratory exercises. The laboratory work is guided by a set of instructions prepared and printed especially for this laboratory.

Open to students who have completed Course A, or its equivalent.

C—*Experimental Physics.* 4 hours.

Lectures, Mondays, Fridays, 8.

See below for Laboratory hours.

Professor CREW.

Electricity and Magnetism. Two lectures and two laboratory exercises each week. In the lectures the more general laws of electricity and magnetism are discussed; the practical equations employed in the laboratory are also derived and discussed. J. J. Thomson's Elements of the Mathematical The-

ory of Electricity and Magnetism is employed as a text-book.

Henderson's Practical Electricity and Magnetism represents the ground covered in the laboratory. This course forms a solid foundation for all work in electrical engineering.

Open to students who have completed Course A, or its equivalent.

D—*Alternate Currents.* 2 hours.

(Primarily for Graduates).

Mondays, Fridays, 9.

Professor CREW.

First Semester.—The general theory of alternate currents as set forth in Franklin and Williamson's treatise on that subject.

E—*Heat Engines.* 2 hours.

Mondays, Fridays, 3.

Associate Professor BASQUIN.

Second Semester.—Applied thermodynamics considering steam, gas, and air engines.

Text-book:—Ewing's Steam Engine and Other Heat Engines. Hutton's Mechanical Engineering of Power Plants is covered in outside reading. A few afternoons are given up to a short series of experiments involving the use of the absorption dynamometer, the indicator diagram, steam calorimeter, etc. An elementary knowledge of the differential calculus is necessary.

F—*Mathematical Theory of Electricity and Magnetism.* 2 hours.

(For Graduates.)

Tuesdays, Thursdays, 10.

Professor CREW.

Webster's Theory of Electricity and Magnetism represents the ground covered. The subject is believed to be essential to all advanced students of pure physics and to those contemplating electrical engineering of high grade. It is also recommended to students interested in applied mathematics.

G—*Mechanical Drawing.* 2 hours.

Mondays, Fridays, 2-5.

Associate Professor BASQUIN.

First Semester.—Elementary Mechanical Drawing. Use

of instruments, elementary projection. Bartlett's Mechanical Drawing and Reinhardt's Lettering are used as tests.

Second Semester.—Elementary Machine design. A series of exercises in the representation of machine parts based upon Reid's Mechanical Drawing and Elementary Machine Design. Tracing and blue-printing.

This course furnishes a good working knowledge of Mechanical Drawing as applied to machines, and is equivalent to the first year's work in drawing in engineering schools.

H—*Applied Mechanics.*

4 hours.

Tuesdays, Wednesdays, Thursdays, 8.
One afternoon each week.

Associate Professor BASQUIN.

First Semester.—Hydromechanics. The general principles of Hydrostatics and Hydraulics, with numerous applications, followed by a study of Water Motors. Experiments upon the flow of water. Text-book: Bovey's Hydraulics.

Second Semester.—Strength of Materials and Theory of Structures. A study of the behavior of materials under the action of stresses, with applications in the design of simple structures of engineering. The students will perform a short series of experiments upon the strength of materials with a Riehle Testing Machine. Text-book: Bovey's Theory of Structures and Strength of Materials.

A knowledge of calculus is required. Students are recommended to take the work in the following order: (1) Physics B, first semester; (2) Physics H, second semester; (3) Physics H, following semester.

K—*Shopwork.*

2 hours.

Two afternoons each week.

Associate Professor BASQUIN and Mr. STARKWEATHER.

METAL WORK.—A set of regular exercises in work on vise, lathe, drill press, and shaper, followed by dynametric experiments upon the action of all cutting tools used. Complete blue printed instructions for each exercise. Lectures and recitations upon metal-working tools, based upon Vandervoort's Modern Machine Tools.

L—*Descriptive Geometry.*

2 hours.

Mondays, 8.

One afternoon each week.

Associate Professor BASQUIN.

The study of the standard method of representing geometric forms on plane surfaces and the graphical solution of geometric problems. Shades, shadows, and perspective will be taken up in the latter part of the year. Recitation period is spent largely in black-board exercises and the drawing period in reducing all these exercises to accurate drawings. Text: Hall's Descriptive Geometry.

Major: Course A and six additional year-hours.

Minor: Course A and two additional year-hours.

LABORATORY HOURS.

The Physical Laboratory and the Shops will be open each afternoon in the week except on Saturday. Students may select their own afternoons for work; but having once made a selection this must be strictly adhered to throughout the entire semester.

PHYSICAL CULTURE AND HYGIENE.

A—*Physical Culture and Hygiene.*

1 hour.

Tuesdays, 2.

Mr. BUTTERWORTH.

First Semester.—Lectures will be given upon structure and functions of muscles, nerves, spinal cord, and brain; sources and effects of vital heat and carbonic acid; fatigue; breathlessness; stiffness; overwork; training; effects of exercise upon organs and tissues of the body; gymnastic exercises—German, English, and Swedish systems; apparatus; indoor and outdoor games.

Second Semester.—Lectures will be given upon diet and value of different articles of food; digestion; functions and care of skin, hair, nails, care of teeth and eyes; composition of air and water; ventilation; bacteria; infectious and contagious diseases.

B—*Physical Training.*

1 hour.

Hours to be arranged.

Mr. BUTTERWORTH.

Physical examinations will be made. Regular classes for

dumb-bell and Indian-club exercises are formed. Credit for one semester-hour is given for three hours a week of gymnasium practice.

ROMANCE LANGUAGES AND LITERATURES.

FRENCH.

AA—*Elementary French.* 5 hours.
Mondays, Tuesdays, Wednesdays, Thursdays, Fridays.
Five sections at 8, 9, 11, 2, 2.

Miss FREEMAN. Mr. LE DAUM.

DeBordes' Grammar. Whitney's Reader. Labiche's La Grammaire. Mérimée's Colomba. Baillot-Brugnot's Composition. Voyage de M. Perrichon. Le Roi des Montagnes (About). Sicard's Easy French History. Simple dictations, private reading, and composition.

This course may not be taken to remove language requirements for admission.

A—*Modern French.* 4 hours.
Mondays, Tuesdays, Thursdays, Fridays.
Three sections at 10, 11, 11.

Professor BAILLOT. Miss FREEMAN. Mr. LE DAUM

Baillot-Brugnot's Composition. Advanced Grammar. Reading. Sicard's Easy French History. Madam de Girardin's La Joie fait Peur. Eugène Scribe's Les Doigts de Fée. Coppée's On rend l'Argent. Freeborn's Contes de Daudet. Pailleron's Le Monde où l'on s'Ennuie.

White's Contes de Maupassant. Victor Hugo's Quatre-Vingt Treize. Canfield's French Lyrics. Coppée's Le Pater. Victor Hugo's Hernani. Private reading: Cameron's Selections from Loti. Hennequin's Lessons in Idiomatic French. Essays.
Open to all who have completed Course AA.

B—*Classic French Literature of the 17th and 18th Centuries.* 3 hours.
Mondays, Wednesdays, Fridays.
Two sections at 8, 9.

Professor BAILLOT.

First Semester.—17th Century. Corneille's Le Cid, Polyeucte. Racine's Athalie. Molière's Le Misanthrope, L'Avare. Composition.

Collateral reading: Crane's *La Société Française au 17^e Siècle*. Dictations and short lectures on the classic literature.

Second Semester.—18th Century. Lesage's *Gil Blas*. Voltaire's *Zaïre* and letters. Beaumarchais' *Le Barbier de Séville* and letters. A study is also made of the other authors of the eighteenth century. Exercises on French Syntax.

C—*General Survey of French Literature.* 2 hours.

Tuesdays, Thursdays, 1.

Professor BAILLOT.

Demogeot's *French Literature* and Darmesteter and Hatzfeld's *Le Seizième Siècle en France* will be used as text-books, and collateral reading is assigned by the instructor. Dictations. Papers on collateral reading.

D—*Recent French Literature.* 2 hours.

Tuesdays, Thursdays, 9.

Professor BAILLOT.

Study of the literature of the Nineteenth Century, taking as a basis George Pellissier's *Le Mouvement Littéraire au XIX^e Siècle*. Collateral reading. This course is given in French. Open only to students who have had Course B.

E—*Advanced French.* 2 hours.

Wednesdays, 3.

Professor BAILLOT.

The topics considered will be closely related to those of Courses C and D; but students will be expected to carry on special studies with prepared papers.

F—*Old French and Early French Literature.* 1 hour.

Hours to be arranged.

Professor BAILLOT.

Open only to students who have had Courses B and C or D.

G—*Scientific French. Second Semester.* 3 hours.

Hours to be arranged.

Miss FREEMAN.

Herdler's *Scientific French*. Articles from scientific periodicals.

H—*French Conversation with Private Reading.* 1 hour.

Wednesdays, 2 to 4.

Professor BAILLOT.

An advanced course open to those who have had Course AA, but registration to be subject to the approval of the instructor.

J—*French Conversation.* 1 hour.

Tuesdays and Thursdays, 9.

Miss FREEMAN.

Bercy's *Le Français Pratique*. Open to students who have had or are having Course AA.

Le Cercle Français meets on alternate Thursdays at 7:30 o'clock, and is open to all students having completed Courses AA and A.

ITALIAN.

A—*Elementary Course.* 3 hours.

Mondays, Wednesdays, Fridays, 9.

Miss FREEMAN.

Grandgent's *Grammar*; Bowen's *Reader*; De Amicis' *Cuore*. Manzoni's *I Promessi Sposi*.

Modern Prose Tales. Dante (40 cantos); Private Reading. Collateral reading required: Howell's *Italian Poets*, Symonds' *Introduction to Dante*, Church's *Dante*, Rossetti's *Dante and his Circle*.

SPANISH.

A—*Elementary Course.* 3 hours.

Mondays, Wednesdays, Fridays, 9.

Miss FREEMAN.

General elective, but especially adapted to advanced students in French.

Edgren's *Grammar*; Ramsey's *Reader*; Larra's *Partir á Tiempo*; Echegaray's *Ó Locura Ó Santidad*.

Composition; Galdos' *Doña Perfecta*; Estebanez's *Un Drama Nuevo*; Caballero's *La Familia de Alvareda*; Moratin's *El sí de las Niñas*; Valdes' *José*.

Not given in 1903-04.

B—*Second Course.*

3 hours.

Tuesdays, Thursdays, 9, Wednesdays 10.

Miss FREEMAN.

Conversation and composition. Easy private readings. Study of the historical development of the Spanish language with translation of modern and classical authors.

Major: Courses A and B (French) and six additional year-hours.

Minor: Courses A and B (French).

SWEDISH.

A—*Swedish.*

3 hours.

Hours to be arranged.

Professor ERICSON.

First Semester.—Modern Swedish Grammar and the Reading of Prose Selections.

Text used: May's Swedish Grammar.

Second Semester.—Tegner's Frithjof's Saga and Selections from Kuneberg.

This course is given in the Swedish Theological Seminary.

ZOÖLOGY.

A—*General Biology.*

4 hours.

Lectures, Tuesdays, Thursdays, 9. Laboratory hours to be arranged between 9 and 12 Tuesdays, Wednesdays, Thursdays, Fridays.

Professor LOCY and Miss VIMONT.

A comparative study of living organisms as a whole, forming an introduction to the study of vital activities. In the laboratory the student acquires a knowledge of methods of study, and is taught to observe, to verify, and record his observations. A general survey of the properties of living matter is followed by study of a few selected types of invertebrate animals, beginning with the simplest and proceeding to the more complex. Parker's "Elementary Biology" and Marshall and Hurst's "Practical Zoölogy" are used as handbooks, and these are supplemented by lectures. In the lectures the physiological side receives most attention.

During the second semester a large part of the time is devoted to study of the development of animals, using eggs of fishes, amphibia, and the chick. This course is open to all students, and is required of those intending to take either Botany or Zoölogy as a major subject. A knowledge of elementary physics and chemistry is very desirable for all students entering this or any of the following courses.

C—*Cytology and Histology.* 3 hours.

Lectures or recitations Mondays, 9. Laboratory hours to be arranged.

Dr. HILL.

First Semester.—Cell-Life and Elementary Histology. Anatomy and physiology of the cell, microscopical structure of the elementary animal tissues, and principles and practice of the general methods of microscopical technique. Wilson's "The Cell in Development and Inheritance" forms the basis of the work on the cell.

Second Semester.—Microscopical Structure of the Animal Organs. Principles and practice of the important special methods of microscopical technique. Continuation of work of first semester. Böhm-Davidoff's "Text-book of Histology" and Piersol's "Normal Histology" will be used as reference books.

D—*Comparative Anatomy and Physiology of Vertebrates.* 4 hours.

Lectures, Wednesdays, Fridays, 9. Laboratory work to be arranged on Tuesdays, Wednesdays, Thursdays, Fridays, 9-12.

Professor LOCY and Assistant.

First Semester.—Comparative Anatomy. Study of Selected Vertebrate Types. The recitations and lectures will be based on Wiedersheim's "Comparative Anatomy of Vertebrates."

Second Semester.—Vertebrate Embryology. Lectures and laboratory work.

E^a—*The Central Nervous System and its Terminal Organs.*

Lecture, Tuesdays, 4. One hour of credit, or when accompanied with three hours' laboratory work, two hours of credit.

Professor LOCY.

First Semester.—The Central Nervous System. Comparative Structure of the Central Nervous System, with discussions on some of its physiological activities.

Lectures and demonstrations, adapted to those taking, or about to take, Psychology, and to others who wish to become acquainted with the structure and general physiology of the nervous system.

Second Semester.—The Structure and Evolution of Sense Organs.

Given in 1902-1903 and in alternate years.

E^b—*Rise and Development of General Biology and Zoölogy.*

1 hour.

Tuesdays, 4.

Professor LOCY.

Historical lectures in which the rise and development of General Biology and Zoölogy is traced from the renascence of science to the present. Particular attention is given to the beginning, the growth, and modification of fundamental doctrines and principles that have become fruitful in the nineteenth century. Intended primarily for students taking Zoölogy A or other work in the department. The course is also open to students who have pursued elementary work in General Biology.

Given in 1903-1904 and in alternate years.

F—*Topics of Investigation.*

May be elected as (a) five hours or (b) ten hours. Hours to be arranged with the instructor.

Professor LOCY.

Open to students who have completed two years' work in Zoölogy. Problems of limited extent are assigned after consultation with the professor in charge, and worked out under his direction with such help as is required. This forms an introduction to the work of original research. The completion of the course involves the consultation of the literature bearing on the problem in hand, and the preparation of a thesis embodying the results of the investigation. A reading familiarity with French and German is essential for entering this course.

G—Research Work.

May be elected as (a) ten hours or (b) fifteen hours.
Hours to be arranged with the instructor.

Professor LOCY.

For graduate students who have completed the equivalent of the courses described above. Similar to Course F, but with broader scope and more rigid requirements as to the thesis, which must embody a critical review of the principal literature and substantial conclusions based upon the personal work of the student. Offered to students who are candidates for a graduate degree. Means of publication will be found for all papers which are worthy of it.

Major: Course A and six additional year-hours.

Minor: Course A and three additional year-hours.

PROFESSIONAL STUDIES.

The following detailed statements indicate how a student in College may arrange his program to advantage in preparation for a professional career, and how, under some conditions, he may shorten the time necessary to secure degrees in both the College of Liberal Arts and a Professional or Technical School.

College credit for studies pursued in professional schools is in all cases restricted to work done in the schools of this University.

STUDENTS PREPARING FOR MEDICINE.

Students intending to enter the Medical School, and desiring to shorten the time required for degrees in both Arts and Medicine, may be released from further work in the College of Liberal Arts when they have secured ninety semester-hours of credit. This credit must include all the required studies for the degree sought, as shown on pp. 22-23, and must fulfill the requirements as to major and minor. If the student's work is properly planned this necessary credit can be secured in three years.

Such students, while continuing registration for the fourth year in College may give their full time to work in the Medical School. The certificate from the Medical Faculty that the equivalent of a full year's work has been satisfactorily accomplished will be accepted in the College as completing the one hundred and twenty hours required for the bachelor's degree.

Credit from the Medical School cannot be accepted in subjects for which credit has already been given in the College of Liberal Arts, nor can time spent in the Medical School be counted toward the year of residence in the College of Liberal Arts required of all candidates for the bachelor's degree.

This plan of combined courses makes it possible to secure both degrees in seven years, three in College and four in the Medical School. For all work done in the Medical School the full fee of that school is charged.

On the other hand, some courses taken in the College of Liberal Arts will be credited for corresponding courses in the Medical School. Thus students who secure credit for Chemistry A and B in College will be given credit for Chemistry a, b, and c, that is, first year Chemistry, in the Medical School. Those who secure credit for Zoölogy A, C, D, and E_a will receive credit for Histology and Embryology a, b, c, d, and e, in the Medical School. Students who include these courses as electives in the ninety hours of credit referred to above, and enter the Medical School for their fourth year, will have sufficient advance credit in the Medical School to enter the second year, but with some conditions. If the unfinished work of the first year is made up by extra summer work, the two degrees can be secured in six years, but to do this requires careful planning from the first.

Students who intend to follow the six-year plan should formally register in the Medical School at the beginning of their third year in College and for them the following order of elective studies in College is recommended:

First Year.—Zoölogy A.

Second Year.—Chemistry A, Zoölogy D.

Third Year.—Chemistry B, Zoölogy C, Zoölogy E_a.

STUDENTS PREPARING FOR LAW.

Thirty semester-hours of work done in the Law School will be accepted by the College of Liberal Arts to apply toward meeting the requirements for a bachelor's degree. Consequently a student in College who has secured ninety hours of credit, including all the required studies for his degree as described on pages 22 and 23, and who has met the requirements as to the major and minor, may transfer to the Law School and complete there the work for the Collegiate bachelor's degree. Students so transferring, however, must continue their formal registration in college, though doing all their work in the Law School, and they will be required to pay the Law School fees while pursuing studies in that school.

The satisfactory completion of the first year of the Law School course, as certified by the Faculty of that School, will be deemed sufficient to make good the remaining thirty hours of the one hundred and twenty hours required for the collegiate degree. Time spent in the Law School cannot be counted toward the year of residence required of all candidates for a Collegiate degree.

STUDENTS CONTEMPLATING THE STUDY OF THEOLOGY.

Students in the College of Liberal Arts, who have completed sixty semester-hours of credit and who wish to shorten the time for securing degrees in Arts and Theology, may elect certain courses in Garrett Biblical Institute to the amount of thirty semester-hours, thereby reducing the time for the combined programs by one year. Work done in Garrett Biblical Institute cannot, however, be applied to meet the requirement of one year of residence for a degree in the College of Liberal Arts.

For convenience the courses open to College students are listed among those offered in the College of Liberal Arts, and are repeated here as they appear in the Institute catalogue. The names in parentheses are the College designations of the courses.

Hebrew of the Junior and Middle years (Hebrew A and B).

Greek of the Junior year in the degree course (Greek N).

Post-Nicene History (History L).

History of the Reformation (History L).

Comparative Religions (Bible F).

Modern Church and Missions (Bible F).

Since exegesis plays so large a part in a theological course, students contemplating the study of Theology should secure while in college a ready command of the Greek and Hebrew languages. They will also find that a knowledge of German will prove highly serviceable in reading modern theological literature.

STUDENTS CONTEMPLATING THE STUDY OF PHARMACY.

Students who have secured ninety semester-hours of credit at the end of their third year in the College of Liberal Arts, including therein all the prescribed courses for their degree, and have met the requirements as to major and minor, may enter the School of Pharmacy, and by satisfactorily completing the first year in that school they may meet the total requirements for the bachelor's degree.

The degree of Master of Pharmacy may then be obtained by completing the second and final year of the Pharmacy program.

The credit to be allowed in the College for work done in the School of Pharmacy may not exceed thirty semester-hours, and it may not include any items for which credit in the College of Liberal Arts has already been secured. Neither can time spent in that school be counted toward the year of residence required of all candidates for a collegiate degree.

Students taking any work in the School of Pharmacy must pay the fees of that school.

STUDENTS CONTEMPLATING ENGINEERING.

A student who intends, after the completion of the College course, to enter the profession of Engineering may register in College as a candidate for any degree, but as a rule will have most elective time at his disposal by following the program for the degree of Bachelor of Science. In meeting the requirements for this degree, as described on page 23, he is advised to take Mathematics AB in the first year; also to take Physics A and Chemistry A as the two required sciences. His elective work and the department in which he makes a *major* will depend upon the special branch of Engineering for which he is planning.

For instance, if he contemplates Mechanical, Electrical, or Civil Engineering, he should do his *major* work in Physics or in Mathematics, and should include in his program as many of the following courses as possible:

First Year.—Mathematics AB or A.

Chemistry A (General Chemistry).

Second Year.—Mathematics BB or B.

“ L (Surveying).

Physics A (Introductory Course).

“ G (Mechanical Drawing).

Third Year.—Physics B (Mechanics, Light).

“ K (Shop Work).

Mathematics J (Calculus and Differential Equations).

Fourth Year.—Physics C (Electricity and Magnetism).

“ D (Thermodynamics).

“ H (Applied Mechanics).

“ L (Kinematics of Machinery).

If the student contemplates Mining Engineering, he would do well to make his *major* in Geology or Mineralogy and devote a large part of his elective time to work in those two departments, with auxiliary electives in Chemistry, Mathematics, and Physics.

If he plans for Chemical or Sanitary Engineering he should

make his *major* in Chemistry, taking all courses there offered with others in Botany and Zoölogy.

Where a definite end is sought, the selection of elective studies should be made in close consultation with the student's adviser, and always with the end clearly in view. A proper choice of studies will make it possible for a student to complete a technical course in two years after graduation from College. The Massachusetts Institute of Technology authorizes the statement that a student who has completed, while in College, such a program as is suggested above may expect to be admitted to the third year of the engineering courses in that institution. If, on the other hand, the student prefers after graduation, to enter directly upon practical engineering work, he will find that a program such as outlined, or such as may be arranged with his adviser, will enable him to do so with advantage.

GRADUATE WORK.

In many of the departments of instruction there are offered advanced courses in excess of the amount required for an undergraduate major, which are adapted to the needs of graduate students. These courses may be pursued either with or without reference to an advanced degree, and are open to properly qualified candidates from this and from other universities. The conditions under which students may register for graduate work are given on page 91, and the regulations affecting advanced degrees may be found on pages 94-97.

The work of graduate students is under the supervision of a standing committee of the Faculty, but a graduate student may pursue any study for which, in the judgment of the instructor in charge, he is prepared.

REGISTRATION.

Undergraduate Registration. Every undergraduate student is required to present himself at the office of the Registrar for the registration of his studies. The following are the rules governing such registration:

1. Registration days are the first Tuesday, Wednesday, and Thursday of each semester, and students not registered at the close of this period are subject to a fee of two dollars for later registration.

2. On the registration days of the first semester the student must register for the work of the whole year. He is expected to continue throughout the year the work then registered for, and may not change it without special permission from the Registration Committee.

3. Before completing their registration, students are required to consult their Faculty advisers as to their college work.

4. No college credit can be obtained for class work not regularly registered.

5. Prescribed studies take precedence in registration over elective studies and in the order in which they are prescribed.

6. Every student must register for fifteen hours of work a week, unless permission has been obtained from the Registration Committee to register for less or more. Permission to register for more is a privilege, and will not be granted unless the committee is satisfied the student can carry the whole work creditably. Two hours of laboratory work are credited as one hour.

7. All undergraduates must state upon their registration papers the full amount of work which they propose to undertake each semester, whether in the College of Liberal Arts or elsewhere, indicating the number of hours to be devoted to each subject, and the school or department in which it is proposed to do such work.

8. All students of the College of Liberal Arts desiring to take work in any other department of the University must first obtain formal consent from the Faculty of the College of Liberal Arts and also from the Faculty of the department concerned, and must file such consent with the Registrar prior to undertaking the work. Failure to comply with this regulation will be deemed sufficient cause for the cancellation of the students' entire registration.

9. No student will be registered as a candidate for a degree who has deficiencies in entrance work amounting to more than five hours a week through one year; and no student will be credited with college work in the published lists of the catalogue until these deficiencies are made up.

10. On the registration days of each semester all students must obtain from the Registrar vouchers for their tuition bills, which must be presented at once at the Business Office of the University.

Graduate Registration. Every graduate student, resident or non-resident, proposing to pursue advanced work, whether he intends to become a candidate for a degree or not, is required to register for this work at the office of the Registrar. The following are the rules governing such registration:

1. The registration of resident candidates for the Master's degree must be effected not later than the first Monday in October next preceding the date of the final examination. The registration of non-resident candidates must be effected one year earlier.

2. A student desiring to become a candidate for the Master's degree while enrolled in one of the professional schools of this University, under Rule 4, page 95, must register as a graduate student in the College of Liberal Arts, and upon such registration will be regarded as a resident candidate.

3. A student who desires to become a candidate for the Master's degree after graduation from one of the professional schools of this University, under Rule 4, page 95, must register for the same in the College of Liberal Arts as early as the first Monday in October next following the completion of the professional course.

4. The registration of a candidate for the Doctor's degree must be effected not later than the first Monday in October next preceding the date of the final examination.

5. A candidate for an advanced degree, prior to his registration, must make written application to the Registrar for enrollment, and furnish to him all data required for due record of his application, together with a statement of the courses of study he proposes to pursue.

6. The above application and statement of courses must be approved by the Committee on Graduate Studies and the heads of departments under whom the work is to be taken, and such approval must be filed with the Registrar as a condition preliminary to registration.

7. Graduates of this, or any other college, who are not candidates for an advanced degree, may, with the consent of the departments concerned, register as resident students in such advanced studies as they are found prepared to pursue.

ABSENCES.

When, in any semester, the absences of a student in a single subject exceed one-eighth of the total number of assigned exercises in that subject, he will be required to take, besides the regular examination at the close of the semester, an *additional* examination in that subject. The dates fixed for additional examinations are the last Thursday of the first semester and the last Friday of the second semester.

Students absent from a required *additional* examination are held to take that examination at the next date set, and no credit can be given until the examination is passed.

When a student's absences in any study amount to one-sixth of the total requirement in that study, his registration in that subject is canceled, and the privilege of examination is denied. This rule is administered by the Committee on Registration which has power to restore the canceled registration at its discretion.

EXAMINATIONS.

At the close of each semester, *regular* examinations are held in the studies of that semester. Any student whose daily work has not been satisfactorily done may be excluded from examination.

A *second* examination is set for students who have been absent from a regular examination, or who have failed to receive a passing grade at a regular examination. Such *second* examinations are held on the first Wednesday in the first semester, on the first Monday and on the Monday following Easter in the second semester.

No student may take more than one *second examination* for the same item of credit.

Students not present at the regular examinations of the first semester will not be admitted to the second examinations held in February, except by permission of the instructor in charge, and such permission will be limited to cases of illness or other urgent necessity.

Additional examinations, to make up work which has been lost by excess of absences from class-work, are appointed for the last Thursday of the first semester and the last Friday of the second semester.

Work reported *incomplete*, not made good before the close of the next succeeding semester, is recorded as *failed*.

A student reported as *failed* in any study must make good the deficiency at a *second* examination within nine months, or take the work again with the succeeding class in order to obtain credit for it.

Undergraduates are not allowed credit for work done *in absentia*. Only those who have duly registered and have regularly pursued their studies in classes are admitted to examinations.

GRADES OF SCHOLARSHIP.

At the end of each semester the standing of a student in each of his courses is reported by the instructor to the Registrar and entered of record. The student's standing is expressed, according to his proficiency, by one of five grades, designated A, B, C, F, R. Grade A denotes excellent scholarship; grade B, good scholarship; grade C, poor scholarship; grade F, failure, making necessary a *second* examination; grade R, failure so serious that the work must be taken over in class. Grades A, B, and C count toward a degree; but not more than one-eighth of the work offered to meet the requirements for graduation may be of grade C.

One semester's work marked C, in excess of the one-eighth allowed, may be counted toward graduation for each subsequent semester's work in the same department, which is of higher grade. Work marked C, not released by subsequent higher work in the same department, may be released by examination under the same regulations as apply to work marked grade F; the original marking, however, will remain in the record.

The semester record of each undergraduate is sent by the Registrar to the student's father or guardian.

DEGREES.

Different programs of study as described on page 22 lead to the degrees of Bachelor of Arts, Bachelor of Philosophy, and Bachelor of Science. The following regulations have been prescribed relating to the attainment of these degrees:

THE BACHELOR'S DEGREE.

1. In order to become a candidate for a Bachelor's degree a student must formally announce his intention by filing his petition with the Registrar, using for the purpose a form provided by the University. The petition must be filed on or before the last Saturday in May of the year next preceding the year in which the candidate expects to obtain the degree.

2. He must have pursued his studies, in residence, in the College of Liberal Arts of this University for at least one college year.

3. He must have completed all the courses prescribed for that particular degree, and elective courses in addition so as to have secured a total credit of one hundred and twenty semester-hours. The total credit obtained must include the major work of at least one department, and the minor work of at least one other department.

4. In making up the total number of hours required for graduation, not more than one-eighth of the work done under this Faculty may be of grade C, except as provided for on page 93.

THE MASTER'S DEGREE.

A Master's degree may be conferred upon Bachelors of this University, or of any other institution of accepted grade, under the following regulations:

1. Before being recommended for any Master's degree the candidate must have pursued studies in residence in the College of Liberal Arts of this University for at least one year, except as stated below.

[The provision "in residence" requires regular attendance upon all prescribed lectures or other exercises in the courses which the candidate pursues. Such prescribed lectures and exercises will occur at least once a week in each course of instruction.]

2. Any Bachelor of this University may become a non-resident candidate for the corresponding Master's degree; but such candidates cannot receive the degree earlier than two years after graduation.

Graduates of other institutions will not be admitted to the College of Liberal Arts as *non-resident* candidates for the Master's degree.

3. Any Bachelor of this University, or of another institution of accepted grade, may become a candidate for the Master's degree while pursuing studies in the Medical School, or Law School of this University, or in Garrett Biblical Institute, or on the completion of the professional course in either of these schools, subject to the provision of Rule 3 on page 91.

4. Each candidate for a Master's degree must present credit in approved courses of study amounting to thirty semester-hours. If he is enrolled in one of the professional schools above enumerated, or has graduated therefrom, his credit must amount to twelve semester-hours of advanced work in an approved field of study, in addition to the completion of the maximum prescribed professional course.

This advanced work, in the case of students in the professional schools, may be taken either under the Faculty of the College of Liberal Arts or the Faculty of the professional school, but in either case it must be approved by the Committee on Graduate Study of the College of Liberal Arts.

5. At least one-half of the work offered for the degree must be chosen from one or, at most, two departments of study in which the candidate has previously taken the undergraduate *major work*, or an equivalent.

6. The candidate must present a thesis on an approved topic pertaining to the primary subject. The subject of this thesis must be filed with the Registrar not later than the first Wednesday in December; the thesis itself must be filed as early as the Saturday next preceding the last Monday in April.

7. Candidates for the Bachelor's degree who during their undergraduate course devote their excess of time to the continuation of their major subject, or to such other advanced topics as may be approved by the Registration Committee, may have such work, if satisfactorily completed, credited toward the Master's degree. But in no case will the Master's degree be conferred in less than one year after the conferring of the Bachelor's degree.

8. A non-resident candidate for a Master's degree will be required to make written report from time to time as to the progress of his work.

9. The final examination of candidates for the Master's degree will take place at the University at an appointed date, about May 20th. The examination is conducted by a committee composed of the head of the department in which the student has done his primary work and at least two other members of the Faculty chosen

from the same or from related departments. In the case of candidates doing work in the professional schools, a representative of the College of Liberal Arts is invited to be a member of the examining committee.

THE DOCTOR'S DEGREE.

The degree of Doctor of Philosophy is conferred under the following regulations:

1. The candidate must have received the Bachelor's degree from this institution, or from some other of accepted standing.

2. The degree may be conferred on successful candidates after three years of graduate study, of which at least two must be in residence. The last year, or the first two years, of the three required must be spent in residence at this University. The period of three years may, however, be shortened in the case of students who, as undergraduates, have pursued special studies beyond the requirement for major work in the direction of their proposed graduate work. Study for any specified time will not be regarded as sufficient ground for conferring the degree. High attainments in scholarship and evidence of original investigation will be expected.

["In residence" will be interpreted as defined under the requirements for the Master's degree.]

3. Two-thirds of the candidate's time must be given to advanced work in some one department which shall constitute his primary subject. The remaining time must be given to either one or two secondary subjects. The requirement, "advanced work," will imply an amount of preliminary study in the given subject equivalent to at least the undergraduate "major work" of the department concerned.

4. A reading knowledge of French and German will be required, as a preliminary qualification. In exceptional cases an equivalent in Latin, Greek, or Hebrew may be accepted instead of French.

5. Every candidate must present a thesis upon an approved topic pertaining to his primary subject. The thesis must give evidence of original investigation. A revised typewritten copy must be presented to the Registrar as early as the Saturday next preceding the last Monday in April. If the thesis is approved the candidate must, within such time as shall be designated, present twenty-five printed copies of it to the University Library. The final examination, which will be held about May 20th, will be both written and oral, and will cover the entire primary subject, including the topic of the thesis.

Each branch of the secondary subject may be completed whenever the candidate shall pass a written examination upon it.

Students in Garrett Biblical Institute may become candidates for the degree of Doctor of Philosophy under the following special regulations. The general regulations affecting examinations, thesis, and a knowledge of foreign languages apply to these candidates as well as to others.

1. The candidate must have completed a Bachelor's course, the sufficiency of which has been accepted by a joint committee of the Faculty of the Institute and the Faculty of the College of Liberal Arts.

2. He must have completed two full years of theological study, either in Garrett Biblical Institute or in another theological school of recognized high standing.

3. He must be accepted as a candidate for the degree of Doctor of Philosophy by a vote of the Faculty of the Institute, and be registered as a candidate for such degree with the Registrar of the College of Liberal Arts; after which he must continue in residence at least two years, and complete the work of two full years. Of this work two-thirds must be taken in one department of the Institute; the remaining third may be taken in not more than two departments of the Institute or of the College of Liberal Arts. The whole course of study selected will be subject to the approval of the Faculty of the College of Liberal Arts, through its committee on Graduate Study. During the two years of his residence the candidate will be subject to the direction of the head of the department in which his primary work is taken.

4. Of the four years thus required as a *minimum* for the degree of Doctor of Philosophy, three at least must be spent in residence at a theological school of high standing, and the last two at Garrett Biblical Institute.

GOVERNMENT.

Students are temporary residents of the city of Evanston, and as such are amenable to the laws of the state and to the ordinances of the city. They are also subject to the rules and regulations made by the Faculty. They are held to have a knowledge of the Statutes of the University and of all Faculty requirements published in the catalogue, or otherwise brought to their attention.

Students may be separated from the institution whenever

in the opinion of the Faculty they are pursuing a course of conduct seriously detrimental to themselves or to the University. The University will not tolerate either idleness or dissolute habits.

Athletics.—The following action of the Trustees controls the management of athletic affairs within the University.

A committee for the regulation of athletic sports shall hereafter be annually appointed and chosen as follows: Three members of the University Faculties and three alumni of the University, these six to be appointed by the executive committee; and also three undergraduates to be chosen during the first week of the College of Liberal Arts year by the Athletic Association.

The committee shall have entire supervision and control of all athletic exercises within and without the precincts of the University, subject to the authority of the Faculty of the College of Liberal Arts.

In accordance with this action, a Committee for the Regulation of Athletic Sports has been created, and has adopted the following regulations, based on the Intercollegiate Conference Rules:

1. No one shall participate in any intercollegiate game or athletic sport unless he be a *bona fide* student, doing full work in a regular or special course, as defined in the curriculum of his college; and no person who has participated in any intercollegiate game as a member of any college team shall be permitted to participate in any game as a member of another college team until he has been a matriculant in such college, under the above conditions, for a period of one year, or has obtained a college academic degree; academy students shall not be eligible to membership on college teams.

2. No person shall be admitted to any intercollegiate contest who receives any gift, remuneration, or pay for his services on the college team.

3. No student shall play on the teams of any college or colleges for more than four years in the aggregate.

4. No student shall participate in any intercollegiate contest who has ever used or is using his knowledge of athletics or his athletic skill for gain. No person who receives any compensation from the University for services rendered by way of regular instruction shall be allowed to play on any team.

5. No student shall play under an assumed name.

6. No student shall be permitted to participate in any intercollegiate contest who is found by the Faculty to be delinquent in his studies.

7. All intercollegiate games shall be played on grounds either owned by, or under the immediate control of, one or both of the colleges participating in the contest, and all intercollegiate games shall be played under student or college management, and not under the control of any other corporation, association, or private individual.

8. The election of managers and captains in each college shall be subject to the approval of its committee on athletics.

9. College football teams shall play only with teams representing educational institutions.

10. At least ten days before every intercollegiate contest, the respective chairmen of the athletics committee of the institutions concerned shall submit to each other a certified list of players eligible, under the rules adopted, to participate in said contest. It shall be the duty of the captains of the respective teams to exclude from the contest all players save those so certified.

11. Athletic committees shall require each candidate for a team to represent the University in intercollegiate contests to subscribe to a statement that he is eligible under the letter and spirit of the rules adopted.

12. No person having been a member of any college athletic team during any year, and having been in attendance less than *one college half-year*, shall be permitted to play in any intercollegiate contest thereafter until he shall have been in attendance six consecutive calendar months.

13. No schedule of games shall be fixed without the approval of the Committee for the Regulation of Athletic Sports. No additional dates for games shall be accepted without the approval of the chairman of said committee.

14. The selection of players for any team shall be subject to the approval of the Committee for the Regulation of Athletic Sports. And in order to provide proper information on which to act, every student desiring to play on any team shall fill out a blank prepared by the committee. To this certificate shall be appended a certificate signed by the physical director, attesting the applicant's physical fitness for membership in the team proposed.

15. No students of the departments situated at Evanston, and no member of any University football or baseball team, shall, during term time, without the permission of the Committee for the Regulation of Athletic Sports, play on any like team not connected with the University.

Musical Clubs.—Student musical organizations, such as glee, banjo, or mandolin clubs, and the University Band, are under the supervision of a Faculty Committee appointed for that purpose. The chairman of the committee must be informed of the intended organization of any such association, with its proposed plans, purposes, and membership. No formal organization is permitted without the knowledge and sanction of the committee. It is especially necessary that the business managers of such organizations make no final arrangements for public appearances of the clubs without the consent of the committee. Under no circumstances will concert dates be permitted to interfere with examinations, or to interrupt study routine. Students with defective standing are not allowed to be connected with such organizations.

Social Entertainments.—In the interest of the college community the Faculty has adopted the following regulation:

No organization or group of students shall hold in any year more than one party or social entertainment at which both ladies and gentlemen are present. Previous permission must in all cases be obtained from the Committee on Social Affairs. Such parties or entertainments shall close not later than eleven o'clock.

RELIGIOUS WORSHIP.

The charter of the University provides that “no particular religious faith shall be required of those who become students of this institution.” The University was not established with the view of forcing on the attention of students the creed of any particular church, but for the promotion of learning under influences conducive to the formation of a manly Christian character. This continues to be its aim and purpose.

Students in the College of Liberal Arts are expected to attend public worship on Sunday in the church of their choice.

Chapel service is held at noon on each week day except Saturday. Attendance is required under the following regulations:

1. When a student's record shows an attendance of less than three-fifths of the chapel exercises of any semester, one semester-hour is added to the requirements for graduation of that student

for every three credits needed to make good the deficiency. In applying this rule, a deficiency of one or two credits is passed over to the next semester; in larger deficiencies, the excess above the highest multiple of three is carried over.

2. When at the close of a semester the chapel record of a student shows a surplus of chapel credits, the surplus credits are applied to cancel any semester-hours which may have been added to the requirements because of defective chapel record of any preceding semester; and the surplus chapel credits not needed to remove such semester-hours are transferred to the chapel record of the following semester.

3. When a student's chapel credits are deficient as many credits as he is expected to secure in one-half of a semester, his registration is canceled, and may be restored only on the recommendation of the committee on chapel attendance.

CHRISTIAN ASSOCIATIONS.

A Young Men's Christian Association and a Young Woman's Christian Association are maintained in active operation in the College, and exert a helpful influence upon the religious life of the students. The headquarters for the Men's Association is at the Association House, 2023 Orrington Avenue, and for the Woman's Association is at Willard Hall. Each Association employs a general secretary and maintains a bureau of self-help for students seeking employment. Under the direction of these organizations, religious meetings are held each week, and daily study of the Bible is promoted.

STUDENT ORGANIZATIONS.

Through the agency of voluntary student associations an active interest is maintained in matters which relate to the intellectual and social life of the student community.

Central Debating League.—Northwestern University, the University of Michigan, the University of Chicago, and the University of Minnesota compose the Central Debating League. The purpose of this organization is the development of readiness and skill in speech and debate through the public discussion of leading questions of the day.

The universities named are arranged in two groups for the semi-final debates. The final contest in each year takes place in Chicago on the first Friday in April, at which time the debate is between the winners from the groups.

Northern Oratorical League.—The oratorical associations of Northwestern University, the University of Michigan, the University of Wisconsin, the University of Iowa, the University of Chicago, the University of Minnesota, and Oberlin College compose the Northern Oratorical League. The purpose of this organization is to promote an interest in public speaking, and to elevate the standard of oratory, by holding annual contests. The contests of the League are open only to undergraduates.

Through the generosity of Mr. Frank O. Lowden, of Chicago, an alumnus and trustee of this University, a prize of \$100 is annually awarded to the successful contestant, and one of \$50 to the person winning second place.

Literary and Scientific Societies.—The following societies and clubs meet regularly for purposes of literary culture or for the advancement of knowledge in special fields: Hinman Literary Society, Rogers Debating Club, Adelphic Literary Society, Science Club, Die Deutsche Gesellschaft, Der Deutsche Litteratur Verein, Botanical Club, Zoölogical Journal Club, Mineralogical Journal Club, History Club. Some of these organizations are composed of members of the Faculty and advanced students, who meet together for the presentation and discussion of the problems pertaining to their special departments.

Other Organizations.—Various other organizations are maintained by the students, including an Athletic Association, Glee, Banjo, and Mandolin Clubs.

FELLOWSHIPS.

For the promotion of research the University has established six fellowships of \$300 each. These are assigned by the President, from year to year, to various departments according to the merits of the applicants and the needs of the departments.

They are open alike to men and women, whether graduates of this University or of other institutions. All appointments to fellowships are made for one year.

Fellows are not required to pay tuition fees, but may be called upon to give a limited amount of assistance in the work of the department. Fellows entering from other institutions must pay the matriculation fee.

Applications for appointment as Fellow should be made to the President of the University; and such applications, together with credentials, must be in his hands not later than the first of April in each year. The fellowships will be assigned not later than the first of May. Blank forms for application may be had from the Registrar.

SCHOLARSHIPS.

The following scholarships are awarded annually to meritorious undergraduates in the College of Liberal Arts. Applications for appointment should be made to the Dean of the College not later than the first day of May in each year.

Catherine M. White Scholarships.—From a bequest of nine thousand dollars received under the will of Catherine M. White, of Evanston, there have been established five scholarships paying full tuition fees. The recipients must hold themselves responsible for a limited amount of clerical service.

Missionary Scholarships.—The University, in June, 1899, established two scholarships in the College of Liberal Arts, entitling the holders to free tuition, to which the Northwestern Branch of the Woman's Foreign Missionary Society of the Methodist Episcopal Church may nominate persons intending to enter upon mission work in the foreign field. In making nominations preference is given to students from foreign lands.

Methodist Episcopal Church Scholarship.—Founded by the First Methodist Episcopal Church of Evanston for the benefit of meritorious students, and yielding annually the interest on one thousand dollars. This scholarship is awarded by the church officials.

Chicago Record-Herald Scholarship.—A scholarship, the gift of the *Chicago Record-Herald*, which affords free tuition and incidental expenses for one student.

Tully Scholarship.—Founded by Mr. B. F. Tully of Chicago, available for a properly accredited candidate for Foreign Missionary service, and paying the full tuition fees of the recipient. In awarding this scholarship promise of usefulness, scholastic attainment, and pecuniary need will be considered in the order named.

Marcy Scholarship in Biology.—The University has secured a table at the Marine Biological Laboratory, Wood's Holl, Massachusetts, for the sole use of advanced students from the biological departments of the College of Liberal Arts. The occupants of this table are entitled each season to all the privileges of the laboratory, including instruction, lectures, and the use of appliances and apparatus.

The American School of Classical Studies at Rome.—The University is a contributor to the support of the American School of Classical Studies at Rome, and is represented by a member of the Faculty on its Board of Managers. The school affords facilities for archaeological and classical investigation and study in Rome, and graduates of the College of Liberal Arts are entitled to all its advantages without expense for tuition.

Accredited School Scholarships.—A scholarship giving free tuition for the first year of the college course is granted to one student from each of the high schools in the State of Illinois on the accredited list of the University. The scholarship each year will be awarded to the graduate of the school who has completed the requirements for admission to college, and who has made the most satisfactory record of scholarship in the class as certified by the principal of the school. In case the pupil having the highest rank does not avail himself of the scholarship, it may be granted by the University, at its discretion, to a candidate of lower rank.

PRIZES.

The following prizes are offered to students in the College of Liberal Arts who are candidates for a degree. No successful contestant can become a second time a competitor for the same prize. No person will be allowed to compete for any prize against whom, at the time for appointing contestants, unredeemed failures are recorded in more than one department of study.

The Kirk Prize in Oratory.—A prize of one hundred dollars, the gift of Mr. John B. Kirk, of Evanston, is awarded each year to the member of the graduating class who excels in original oratory. The conditions on which the award is made are as follows:

1. Five contestants will be appointed by the Faculty, and announcement of the appointments will be made the first Friday in May.

2. These appointments will be made on the basis of the rhetorical work done during the last three years of the undergraduate course—equal weight being given to the following records: (1) English Language A; (2) English Language B; (3) Elocution B; (4) Elocution C; (5) the Oration submitted for competition.

3. At this contest no prompting of the speakers will be allowed, and failure of memory will exclude a competitor from consideration in the assignment of the prize.

4. The award will be made by a committee appointed by the Faculty, but composed of persons who are not members of the Faculty. The decision will be announced at Commencement.

The Harris Prize in Political and Social Science.—A prize of one hundred dollars, the gift of Mr. Norman W. Harris of Chicago, is awarded to the writer of the best essay on an assigned topic in the department of Economics, Finance, and Administration.

The conditions on which the Harris prize will be awarded are as follows:

1. No undergraduate student will be allowed to compete for this prize unless he shall have completed at the time of making the award the equivalent of Courses A and C in Economics.

2. Essays offered in competition for this prize must con-

tain not less than 10,000 words, and must be either printed or typewritten. If typewritten, they must be on letter paper of a good quality, of the quarto size, with a margin of not less than one inch at the top, at the bottom, and on each side, so that they may be bound without injury to the writing. On the title-page of each essay must be written an assumed name, and under cover with the essay must be sent a sealed letter containing the true name of the writer and superscribed with his assumed name.

3. The copies of all essays submitted for this prize become the property of the University, and the essay receiving the prize shall have indorsed upon it a certificate of that fact.

4. Each year the essays submitted in competition for this prize must be deposited with the Registrar of the College before twelve o'clock noon on May 1st.

5. The Faculty will appoint three judges of the essays offered and the prize shall be awarded to the essay declared by at least two of the judges to be the best; *provided*, that the University expressly reserves the right to make no award of the prize in any year in which the best essay offered shall, in the opinion of a majority of the judges, not be of sufficient merit to deserve a prize.

The Gage Debate Prizes.—Three prizes of fifty, thirty, and twenty dollars, respectively, are given annually by the Honorable Lyman J. Gage for excellence in debating. The recipients of these prizes are selected through a series of debates, held in the autumn of each year, to which students from all departments of the University are eligible. The three men receiving the highest ranks in this series of debates receive the Gage prizes in the order of their markings, and they also become the representatives of the University in the annual contest of the Central Debating League.

The Sargent Prizes in Public Speaking.—Two prizes of fifty and twenty-five dollars, respectively, endowed by Mr. George M. Sargent, of Evanston, will be given to the two students who shall excel in public speaking.

1. Eight candidates will be appointed by the Faculty, the selection being confined to students who have completed not less than fifty hours of college work, Elocution B included.

2. In the competition, at least one of the prizes must be given for an oratorical effort. In no case may a declamation exceed twelve hundred words.

3. At this contest no prompting of the speakers will be allowed, and a failure of memory will exclude a competitor from consideration in the assignment of the prizes.

4. The award will be made by a committee appointed by the Faculty, but composed of persons who are not members of that body.

Prizes in Oratory.—Two prizes of fifty and twenty-five dollars, respectively, the gift of Mr. Charles T. Boynton, of Evanston, are given annually to the contestants obtaining the first and second places in the preliminary contest to determine who shall represent the University in the annual contest of the Northern Oratorical League.

THE GROUNDS AND BUILDINGS.

The Campus has an area of about forty-five acres, and is beautifully situated on the shore of Lake Michigan. University Hall, Fayerweather Hall of Science, Dearborn Observatory, Fisk Hall, Memorial Hall, Swift Hall, Orrington Lunt Library, Old College, the Gymnasium, the Dormitory, and Heck Hall are all on the Campus. Willard Hall, Pearsons Hall, and Chapin Hall are distant from the Campus about three minutes' walk.

Large athletic grounds suitably prepared for use have been provided on the upper Campus. A grand stand, erected there by the alumni and students, furnishes seats for about seven hundred persons. In connection with it are dressing-rooms for the use of athletic teams.

THE LIBRARY.

The Library of the College of Liberal Arts is housed in a chaste and commodious building, erected in 1894, through the generosity of the late Orrington Lunt, for several years President of the Board of Trustees. During the college year the library is open from 8 A.M. to 9 P.M. In the summer vacation the hours are from 10 to 12 A.M., except on Saturday. All officers and students of the University may draw books for home use. Persons not connected with the

University, who desire to use the library for purposes of study, and who are responsibly introduced, may be allowed library privileges.

The library contains 49,957 bound volumes, and about 35,000 unbound pamphlets. It is classified in two sections, the General Library and the Greenleaf Library. The General Library, numbering 38,711 volumes, is designed to supply books appropriate to the several departments of study in the University, and also to furnish students with works of general reading and reference. The reading-room is provided with a large selection of periodicals, complete sets of many of which are placed on the shelves for reference.

The Greenleaf Library, the gift of the late Luther L. Greenleaf, Esq., contains 11,246 volumes, also a large and valuable collection of unbound dissertations and monographs, chiefly publications of foreign universities and learned societies. It is unusually complete in the Greek and Latin classics, every author being represented by the best editions from the earliest to a recent date. It contains also a choice selection of standard works in German and other modern languages. In the subjects of history, philosophy, theology, and the fine arts, there are many works of unique value.

The Schneider collection, lately added to the German section of the library, through the generosity of friends of the University, numbers 2,500 volumes. It includes many first editions of standard authors. Among its rarities are original prints from the period of the Reformation, and a large collection of annuals (*Musen-almanache* and *Taschenbücher*) of the eighteenth and nineteenth centuries.

The Orrington Lunt Library Fund, the gift of the gentleman whose name it bears, is set apart as an endowment for the purchase of books. The fund promises, as it becomes productive, to give the library large and permanent growth.

On payment of the regular term bills, every student is entitled to the privileges of the library.

Students of the University have the use of the library of Garrett Biblical Institute, numbering 14,088 bound volumes. They have access also to the Evanston Public Library, which is especially rich in works on history and general literature, and to the great libraries of Chicago—the Chicago Public Library, the Newberry Library, the John Crerar Library, and the Library of the Chicago Historical Society.

THE ASTRONOMICAL OBSERVATORY.

The Dearborn Observatory is located in a substantial building on the upper Campus, the gift of James B. Hobbs, Esq., of Chicago. Its objects are to make original researches in astronomical science, to assist in the application of astronomy to geography, to communicate exact time, and to furnish instruction in astronomy to the students of the University, both those in the regular course and those who wish to give special attention to the study.

The Observatory is open to visitors on Thursday evening of each week. Visitors may also be admitted at other times by making special arrangements with the Director of the Observatory.

The principal instruments of the Observatory are :

1. The great equatorial refracting telescope, made by Alvan Clark & Sons, of Cambridge, Massachusetts, in 1861. The telescope is fitted with driving clock, micrometer, and other appliances necessary for first-class work. The dimensions of the Equatorial are:

Diameter of declination circle, 30 inches; reading by vernier to five minutes, and by two microscopes to ten seconds of arc.

Diameter of hour circle, 22 inches; reading by vernier to single minutes, and by microscopes to single seconds of time.

Focal length of telescope, 23 feet.

Aperture of object glass, $18\frac{1}{2}$ inches.

2. A meridian circle of the first class, constructed in 1867, by Messrs. A. Repsold & Sons, of Hamburg. This instrument has an object glass of six French inches aperture, and a divided circle of forty inches diameter, reading by four microscopes. In plan of construction it is like Bessel's celebrated Königsberg circle by the same makers, but has some recent improvements in the mode of illuminating the field of view, together with apparatus for registering declinations. Hough's printing and recording chronographs are used for recording meridian observations and other phenomena.

The Observatory has a chronometer (William Bond & Son, No. 279), three mercurial pendulum clocks, and an astronomical library containing about thirteen hundred volumes and pamphlets.

THE MUSEUM.

The Museum of the College of Liberal Arts contains collections illustrative of anthropology, art, botany, geology, mineralogy, and zoölogy.

The collections relating to anthropology, botany, geology, and zoölogy are at present in University Hall. The art collection is in the Orrington Lunt Library. The mineralogical collection is in the Fayerweather Hall of Science.

THE GYMNASIUM.

The gymnasium is under the immediate supervision of a competent director and is open at suitable hours to students of both sexes. Each student, upon entering the gymnasium, may, if he so desires, be measured and thoroughly examined physically; his health, strength, muscular development, physical defects, etc., will be carefully noted. From these data a special course of exercises, based on scientific principles, will be prescribed to meet his individual needs.

It is the purpose of the director to offer to each student such advice and prescribe such exercises as will give increased health, strength, and symmetry of body.

THE UNIVERSITY SETTLEMENT.

An association, composed of alumni and friends of the University, maintains, at 122 Augusta Street, Chicago, the Northwestern University Settlement. College graduates and others reside in the settlement house, and seek to influence the surrounding community as members of it. Opportunity is also offered to undergraduates for philanthropic work and practical acquaintance with sociological problems. The plan includes classes for instruction, clubs for social improvement, a reading-room, lectures, concerts, house-to-house visitation, and legal and medical dispensaries. The expenses are met by membership subscriptions and voluntary contributions.

FEES AND EXPENSES.

Matriculation Fee. Every student, on first entering the College of Liberal Arts, is required to pay a matriculation fee of five dollars. This fee is paid but once and is not returnable.

Tuition Fees for Undergraduates. An undergraduate student is required to pay a fee of thirty-five dollars at the beginning of each semester, of which amount twelve dollars is charged for incidentals and the remainder for tuition.

Sons and daughters of ministers, and students preparing for the Christian ministry who are properly recommended, pay eighteen dollars a semester for tuition and incidentals.

Students pursuing a single study, i. e., taking work which does not exceed five hours a week, pay a fee of eighteen dollars a semester. Candidates for the ministry, and the children of ministers, who are pursuing a single study pay a fee of twelve dollars a semester.

Beginning with September, 1904, undergraduate fees will be as follows:

Regular full tuition-----	\$40.00	a semester.
For sons and daughters of ministers and candidates for the ministry----	25.00	"
For students pursuing a single study, i. e., work not exceeding five hours a week -----	25.00	"
For sons and daughters of ministers pursuing a single study-----	18.00	"

Under this schedule, holders of old-time perpetual scholarships will pay eighteen dollars a semester.

Tuition Fee for Graduate Students. A graduate student in residence is required to pay a fee of fifteen dollars a semester. If not in residence, he pays a fee of ten dollars at the time of registration, and an additional fee of twenty dollars on the presentation of his thesis, preparatory to his final examination.

Laboratory Expenses. Students who pursue laboratory courses are required to pay for the materials actually consumed. To this end, they make a deposit at the beginning of each semester, unexpended balances being returned to them. The deposits vary for the different courses.

In the Chemical laboratory, for Course A the deposit is \$7.50 a semester, while for Courses B, C, or D, it is \$9.00 a semester.

In the Zoölogical laboratory, the deposit required is \$5.00 a semester for any course, except Course E^b.

In the Mineralogical laboratory, a fee of \$3.00 is charged for Course A in the second semester, and a fee of \$5.00 a semester for Course E.

These deposits are required alike of graduate and undergraduate students.

Graduation Fee. A fee of \$10.00 is charged all persons taking any degree in the College of Liberal Arts. This fee is payable on the first day of May of the year of graduation.

The payment of fees is made at the University Business Office, 518 Davis Street, Evanston. Cheques should be made payable to "Northwestern University."

No tuition or incidental fees will be refunded except in case of sickness. In this event, if the student procures from the Dean a statement of honorable standing, and from a physician a certificate of inability to remain in attendance, half of the amount paid will be refunded, if application is made before the middle of the semester.

BOARD AND LODGING.

Students living in Willard Hall pay, according to the desirability of the room, from \$99.00 to \$108.00 each semester. Students in Pearsons Hall and in Chapin Hall pay for room and board \$55.00 each semester, payment to be made in quarterly installments at the beginning and at the middle of the semester. A deposit of \$5.00 is required when a room is reserved.

The prices paid in Willard, Pearsons, and Chapin Halls include a furnished room, light, fuel, and the washing of twelve plain pieces. The occupants of the rooms furnish their own bed-clothing, pillows, and towels. Room and board bills are payable strictly in advance. No deduction is made for absence in any part of the term, except in cases of protracted illness.

The University does not undertake to provide dormitories for young men, beyond the limited accommodations described on page 21. They may obtain board and lodging in private families at reasonable rates. Clubs are also formed in which the cost of board is reduced to a minimum.

The following table exhibits the scale of annual expenditure:

	Low.	Average.	Liberal.
Tuition and incidental fees-----	\$ 70	\$ 70	\$ 70
Board (36 weeks)-----	90	135	162
Room-----	32	72	100
Washing-----	18	25	35
Text-books and stationery-----	10	18	35
	\$220	\$320	\$402

LOAN FUNDS.

The University receives annually a considerable sum of money to be loaned without interest to needy and deserving students who are preparing for the ministry, or for other forms of Christian work. Loans from this fund are available to students without distinction of sex, and are made upon the recommendation of the Committee on Loans and and Charitable Funds.

SELF-SUPPORT OF STUDENTS.

Numerous inquiries are addressed to the authorities of the University, by persons desirous of carrying on collegiate studies, who are without adequate funds to defray their expenses, asking whether the institution furnishes to students means of employment which will enable them to support themselves wholly or in part while engaged in the prosecution of their studies. It is proper to say that the University does not undertake to furnish employment to any student, and it does not encourage students to enter who are entirely without resources. It happens each year that not a few students are able to aid themselves very materially by their labor while carrying on their studies, but the student is obliged to rely on his own ability, industry, and economy in all such cases. The Young Men's Christian Association conducts a bureau of self-help which is of great assistance in securing work for those desiring it, and any inquiries sent to the Secretary of that Association will receive careful attention.

For further information in regard to the College of Liberal Arts, address the Dean of the College, Evanston, Illinois.

For blank forms of admission and for particulars as to entrance requirements and all matters of record, address the Registrar of the College of Liberal Arts, Evanston, Illinois.

V.
DENTAL SCHOOL
CHICAGO

Offers a four years' course leading to the degree of Doctor of Dental Surgery. The facilities for practical and theoretical instruction in the school are unusually good. The new location is particularly well adapted for the convenience of students and instructors. It is the largest University Dental School in the world.

Address Northwestern University Dental School, Northwestern University Building, Corner of Lake and Dearborn Streets, Chicago.

VI.
SCHOOL OF MUSIC
COLLEGE CAMPUS, EVANSTON

Offers extensive courses in the practical and theoretical study of Music, and is designed to prepare students for the profession as composers, theorists, artists, teachers, or critics. It also makes provision for the study of Music as a part of general culture or as an accomplishment. It offers three or four year courses leading to appropriate degrees in Music.

For further information, address School of Music, Evanston, Illinois.

VII.
THE ACADEMIES

Northwestern University Academy, situated on the College Campus in Evanston, offers a large variety of courses preparatory to college and to practical life. The proximity of the college department with its many facilities constitutes a great advantage. Young men and women will find here opportunity to prepare for any college in the country.

For further information, address Northwestern University Academy, Evanston, Illinois.

Grand Prairie Seminary is maintained by the University at Onarga, Illinois. Special facilities are afforded for preparing for college or technical schools, or other higher institutions of learning. The location in a small town makes it possible to offer low rates of tuition and board. An excellent commercial course is also offered in this institution.

For further information, address Grand Prairie Seminary, Onarga, Illinois.

VIII.
SCHOOLS OF THEOLOGY
EVANSTON
GARRETT BIBLICAL INSTITUTE.

Garrett Biblical Institute, chartered in 1855, is a theological seminary co-operating with the University. It is open to all students who are properly recommended as candidates for the Christian ministry. It offers a three years' course, arranged for classical graduates, leading to the degree of B.D.; also a four years' course open to college graduates leading to the degree of Ph.D.

The intimate relations of the University and the Institute afford great advantages to all those preparing for the Christian ministry.

NORWEGIAN-DANISH THEOLOGICAL SCHOOL.

The Norwegian-Danish Theological School, affiliated with the Institute, offers to those preparing for the ministry among the Norwegian and Danish people an opportunity to do this in the English, Danish, and Norwegian languages.

SWEDISH THEOLOGICAL SEMINARY.

The Swedish Theological Seminary, organized to meet the increasing demands for educated pastors and missionaries among the Swedish population in the United States, offers a four years' course in Divinity.

For further information, address the respective schools, Evanston, Illinois.

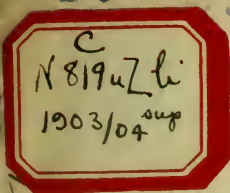
IX.
SCHOOL OF ORATORY
COLLEGE CAMPUS, EVANSTON

Offers instructions in Oratory and auxiliary subjects.

For further information, address Robert M. Cumnock, Director School of Oratory, Evanston, Ill.

**THE UNIVERSITY BULLETIN IS ISSUED QUARTERLY
BY NORTHWESTERN UNIVERSITY**

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at Evanston, Illinois**



NORTHWESTERN UNIVERSITY

COLLEGE OF LIBERAL ARTS

REVISED ANNOUNCEMENTS FOR THE YEAR 1903-4

(Supplementary to the General Catalogue)

BOTANY.

Miss Jewell will assist in courses A and C.

Miss Sturgeon will assist in courses A and B.

Attention is called to the fact that a deposit of \$2.00 is now required, each semester, for courses A, B, and D, and \$3.00, each semester, for courses C and E.

ECONOMICS.

The subject for the Harris prize this year is "The Responsibility of Employers of Labor for Accidents to Their Workmen."

All the courses announced for the first semester by Assistant Professor George will be withdrawn. Course AB will not be given in the second semester, but it is expected that Professor George will give all his other courses in the second semester, and students may register for these at the opening of the year.

ENGLISH LANGUAGE.

No preliminary English examination will be required of new students.

Additional sections in course A will be formed, meeting at 9, 10, 11, and 2.

Mr. Churchill will be associated with Dr. Kellogg and Mr. Odell in course A.

Course H is new. It is a course in the longer forms of narration, conducted by Mr. Odell. 2 hours credit. Hours to be arranged.

ENGLISH LITERATURE.

For course A (required for all bachelors' degrees), Seniors may substitute course F or course G.

Course A will not be open to students who have not taken English Language A, except by special consent of the instructor.

FRENCH.

Sections of French AA meeting at 8 and 11, will be conducted by Miss Freeman; those meeting at 9 and 2, by Mr. Le Daum.

The 10 o'clock section of French A is under the charge of Miss Freeman; the 11 o'clock, of Professor Baillot.

GERMAN.

Course E (*Das deutsche Volkslied; The Swabian School*) is a graduate course and is designed especially for teachers. It meets from 8:30 to 10:15 a. m. Saturdays, and is conducted in German. A special circular descriptive of this course may be obtained of the Registrar.

GREEK.

Mr. Oldfather will conduct course A B.

Course N is now a four-hour course,—Tuesdays, Wednesdays, Thursdays and Fridays, 10.

HEBREW.

Course A will be given as a four-hour course, Tuesdays, Wednesdays, Thursdays and Fridays, 9.

Course B will be given Tuesdays and Thursdays at 8--two hours' credit.

Course C will be given Tuesdays, Wednesdays, Thursdays and Fridays at 10.

HISTORY.

Course CD will be withdrawn.

Course D will be given this year.

Course F will be conducted by Dr. Willard throughout the year.

LATIN.

A new section of Latin A will be formed, meeting at 11 o'clock, Monday, Tuesday, Thursday and Friday.

Assistant Professor Long and Mr. Oldfather will conduct course A.

MATHEMATICS.

Sections of course A will be conducted as follows:

11 a. m. (1) by Professor White,
11 a. m. (2) and 2 o'clock by Dr. Keppel,
8 and 9 a. m., and 3 p. m., by Mr. Young.

Course B will be conducted by Professor White, D by Professor Holgate, G by Dr. Keppel, J by Mr. Young.

Course K will be given at 10 a. m., Tuesdays and Thursdays.

A special circular regarding graduate courses in Mathematics may be obtained of the Registrar.

MORAL AND SOCIAL PHILOSOPHY.

Owing to the resignation of Professor Caldwell the courses in this department, except the first semester of A (Ethics), will be discontinued. The course in Ethics will be assumed by the Department of Philosophy.

PEDAGOGICS.

Courses announced by Dr. Fisk for the first semester will be withdrawn; they will be given the second semester.

CHANGES OF ADDRESS OF INSTRUCTORS.

Churchill, Herman	1916 Maple Ave.
Crew, Henry	620 Hamlin St.
James, James A.	2127 Orrington Ave.
Keppel, Herbert G.	616 Foster St.
Locy, William A.	1823 Hinman Ave.
McCornack, Walter E.	100 Washington St., Chicago
Odell, John P.	820 Hamlin St.
Oldfather, William A.	581 Ingleside Park
Scott, John A.	2030 Orrington Ave.
Scott, Walter D.	714 Foster St.

MISCELLANEOUS.

Professor Crew's consultation hours hereafter will be 3 to 3:30 daily, Room 10, East Science Hall.

PROFESSOR'S OFFICE HOURS DURING REGISTRATION.

Professor		
Atwell,	9—12 a m	U. H. 21
Baillet,	9—12 a m, 2—5 p m	U. H. 9
Baird,	10—12 a m, 2—4 p m	U. H. 12
Basquin,	10—12 a m, 2—4 p m	Sci. Hall, East
Bonbright,	9—12 a m	U. H. 14

(OVER)

Churchill,	10—12 a m	U. H. 17
Clark,	10—12 a m, 2—4 p m	U. H. 17
Coe,	10—12 a m, 2—4 p m	O. C. 5
Crew,	9—10 a m, 3—4 p m	Sci. Hall, East, 10
Crook,	10—12 a m, 2—4 p m	Sci. Hall, West, 10
Crow,	10—12 a m, 2—4 p m	Willard Hall
Cumnock,	9—10 a m	Swift Hall
Curme,	9—12 a m, 2—4 p m, Mon. to Wed. 9—10 Thu.	U. H. 9, Mon. to Wed. Lunt 5, Thu.
Edward,	11—12 a m	Lunt 25
Freeman,	10—12 a m, 2—4 p m	U. H. 13
Grant,	9—12 a m, 2—5 p m	U. H. 3
Gray,	See Bulletin Board	
Hatfield,	10—12 a m, 2—4 p m	Lunt 26
Holgate,	9—12 a m, 2—5 p m	U. H. 2
Hough,	10—12 a m	Observatory
James, J. A.	10—12 a m, 3—5 p m	U. H. 12
Kellogg,	11—12 a m	U. H. 17
Keppel,	9—12 a m, 2—4 p m	U. H. 11
LeDaum,	9—12 a m	Fisk 6
Locy,	10—12 a m, 2—4 p m	U. H. 26
Long,	9—12 a m, 2—5 p m	U. H. 9
Odell,	11—12 a m	U. H. 17
Oldfather,	11—12 a m	U. H. 15
Patten,	9—11 a m, Tue. Wed. Thu.	O. C. 1
Pearce,	11—12 a m	Sci. Hall, West
Scott, J. A.	10—12 a m	U. H. 12
Scott, W. D.	10—12 a m, 2—4 p m	O. C. 9
Simpson,	10—12 a m	Lunt 25
Tatnall,	9—12 a m, 2—5 p m	U. H. 9
Thorndike,	10—12 a m, 2—4 p m	O. C. 14
White,	9—12 a m, 2—5 p m	U. H. 9
Wilde,	9—12 a m, 2—5 p m	U. H. 8
Willard,	11—12 a m	U. H. 11
Young, A. V. E.	10—12 a m, 2—4 p m	Science Hall, West
Young, J. W.	11—12 a m	U. H. 11

Unless otherwise specially designated, the above hours and places are appointed for Monday, Tuesday and Wednesday of registration week. On Thursday, instructors may be consulted at their class-rooms before or after classes, or at such office hours as may be indicated on pp. 51-52 of the general catalogue.

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1903/04

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OF THE
UNIVERSITY of ILLINOIS

VOL III.

MAY, 1904

NUMBER 1

BULLETIN

OF

Northwestern University



CIRCULAR OF INFORMATION
COLLEGE OF LIBERAL ARTS

EVANSTON
PUBLISHED BY THE UNIVERSITY
1904

CALENDAR FOR 1904-1905.

1904.

September 19, Monday, **Academic Year 1904-05 begins.**

September 19, 20, Monday, Tuesday. Examinations for admission.

September 20, 21, 22, Tuesday, Wednesday, Thursday. Registration days.

September 21, Wednesday. Second Examinations.

September 22, Thursday. Class-work begins 8 o'clock A. M.

Thanksgiving recess from Thursday, November 24, to Sunday, November 27, inclusive.

Christmas recess from Friday, December 23, to Monday, January 2, inclusive.

1905.

January 28, Saturday, **Founders' Day.**

February 1, Wednesday. Regular Mid-year Examinations begin.

February 9, Thursday. Additional Examinations.

February 10, Friday. **Second Semester begins.**

February 13, Monday. Second Examinations.

February 17, Friday. Sargent Prize Contest.

Easter Recess from Friday, April 21, to Monday, April 24, inclusive.

April 24, Monday. Second Examinations.

May 31, Wednesday. Regular Examinations begin.

June 9, Friday. Additional Examinations.

June 15, Thursday. **Forty-seventh Annual Commencement.**

COMMENCEMENT.

The Forty-sixth Annual Commencement of the University was held at the Auditorium, in Chicago, on Thursday, June 16, at 8 o'clock in the evening. The opening prayer was made by the Rev. Clarence Abel, of the class of 1895, pastor of Trinity Methodist Episcopal Church in Chicago, and the Commencement Address was delivered by the Rev. Albert Carman, M. A., D.D., of Toronto. Degrees in Course were conferred as follows:

Master of Arts.....	9
Master of Science.....	4
Master of Letters.....	2
Bachelor of Arts.....	58
Bachelor of Science.....	44
Bachelor of Letters.....	2
Doctor of Medicine.....	134
Bachelor of Laws.....	41
Pharmaceutical Chemist	9
Graduate in Pharmacy.....	54
Doctor of Dental Surgery.....	161
Graduate in Music.....	8
Total.....	526

The honorary degree of Doctor of Laws was conferred upon the following persons:

Albert Carman, M. A., D.D., General Superintendent of the Methodist Church in Canada.

Howard Jason Rogers, Chief of the Department of Education and Social Economy at the Louisiana Purchase Exposition, Director of the Department of Education and Social Economy for the United States at the Paris Exposition, 1900.

Peter Joseph Osterhaus, Brigadier General in the United States Army, retired.

Henry Sherman Boutell, A. M., Bachelor of Arts of this University of the year 1874, Member of the House of Representatives of the United States.

Herbert Franklin Fisk, A. M., D.D., retiring Principal of Northwestern University Academy.

The honorary degree of Master of Arts was conferred upon:

Charles Sumner Mayo, M. D., graduate of the Medical School of this University, an eminent surgeon of Rochester, Minnesota.

ANNOUNCEMENTS.

On the retirement of Dr. Herbert Franklin Fisk as Principal of the Academy, Professor Arthur H. Wilde, Ph. D., of the department of History, has been appointed Acting-Principal for the year 1904-05. He takes up the administration on July 1.

Mr. William A. Oldfather, A. M., Instructor in Latin, will be Registrar of the College of Liberal Arts for the year 1904-05.

STATISTICS FOR THE YEAR 1903-04.

The number of students enrolled in the College of Liberal Arts for the year 1903-04 was 850, three more than are listed in the catalogue. Of these, 799 were undergraduates and 51 were graduates. Of the number of undergraduates 651 were candidates for a degree, 86 were special students not candidates for a degree, 31 were admitted for special courses from the Academy, 27 from the School of Music, and 4 from Garrett Biblical Institute.

The total attendance in the college shows an increase of ten per cent over the year 1902-03, and of thirty-three per cent over the year 1901-02.

New Students.—The number of new students admitted during the year was 369, of whom 62 came from other colleges. In all, 205 different schools were represented in this number, 124 students coming from schools in Evanston and Chicago, 104 from schools in Illinois outside of Evanston and Chicago, and 141 from schools outside of Illinois as follows:

Arkansas	1	New York	4
California	3	North Dakota	1
Colorado	2	Ohio	9
Georgia	1	Oklahoma	1
Idaho	2	Oregon	1
Indiana	17	Pennsylvania	3
Iowa	26	South Dakota	3
Kansas	9	Tennessee	1
Maryland	1	Washington	3
Massachusetts	4	Wisconsin	9
Michigan	9	Porto Rico	1
Minnesota	9	Ontario	1
Missouri	5	India	1
Montana	1	Japan	1
Nebraska	1	Germany	1

Schools not specified..... 10

Other Colleges.—Of the students from other colleges, 16 entered as graduates and 46 as undergraduates. The colleges from which they were admitted are as follows:

Albion College	2	Kansas University	1
Atlanta University	1	Knox College	1
Austin College	1	Leipsic, University of.....	1
Bryn Mawr	1	Leland Stanford Jr. Univer-	
California, University of....	1	sity.....	2
Central College	1	McKendree College	1
Central University	1	Michigan, University of....	2
Central Wesleyan College...	1	Monmouth College	1
Chicago Theological Semin-		Morningside College	1
ary.....	1	Nebraska, University of....	1
Chicago University	5	Northwestern College	1
Cornell College	2	Oberlin College	1
Denver, University of.....	1	Ohio State University.....	1
DePauw University	3	Ohio Wesleyan University...	1
Greenville College	1	Pacific Methodist College...	1
Harvard University	1	Simpson College	1
Idaho, University of.....	1	Smith College	1
Illinois, University of.....	2	Southwest Kansas College...	1
Illinois, Wesleyan University	3	Syracuse University	1
Imperial University, Tokyo..	1	Tabor College	1
Indiana, University of.....	1	Western College	1
Iowa College	2	Williams College	1
Kansas State Agricultural		Wisconsin, University of....	1
College.....	1	Woman's College	1
Kansas Wesleyan Univers-			
ity	2	Total.....	62

FELLOWSHIPS.

The following appointments to fellowships have been made for the year 1904-1905. Each fellowship yields to the holder three hundred dollars a year and free tuition as a graduate student:

German—Walter Edward Roloff, A. B., Northwestern University, 1904.

Greek—Axel Louis Elmquist, A. B., Northwestern University, 1904.

Physics—Guy Gaillard Becknell, B. S., Northwestern University, 1904.

Zoology—Caroline Elizabeth Jaycox, A. B., Kansas State University, 1904.

NEW INSTRUCTORS.

A number of new Instructors have been appointed for the year 1904-05. Of these some fill vacancies caused by the withdrawal of others. but several are additions to the teaching force of the department with which they are connected. It is expected that appointments will be made in still other departments during the summer. The appointments thus far made are as follows:

Paul Gustav Adolf Busse, *Instructor in German.*

Mr. Busse was born in Berlin, October 16, 1873. He attended the Lessing Gymnasium in Berlin until 1891, when he became a student of theology. In 1892 he came to America, and continued his studies in the German Theological Seminary in St. Louis, Missouri, graduating there in 1895, and from McCormick Theological Seminary in 1898. He entered Northwestern University in 1898, received the degree of A. B. in 1899, and A. M. in 1900. From 1900 to 1902 he continued his studies in Germanic literature and philology at the University of Berlin. In 1902 he entered Harvard University, where he was appointed Shattuck scholar and assistant in the German Department. Since September, 1903, he has been instructor in German in the University of Wisconsin.

Harold C. Goddard, *Instructor in English Literature.*

Mr. Goddard received the degree of A. B. from Amherst College in 1900, and remained in that institution for two years after graduation as an instructor. For the past two years he has been a graduate student and fellow in Columbia University, and has completed the work for the degree of Doctor of Philosophy, presenting a dissertation on "The Transcendental Movement in American Literature."

Eugene H. Harper, *Instructor in Zoology.*

Dr. Harper graduated from Oberlin College in 1890 with high rank. He afterwards pursued graduate studies in Harvard University, receiving the degree of Master of Arts, and after an interval of teaching and period of further graduate study he received the degree of Doctor of Philosophy from the University of Chicago in 1902. His thesis, a technical paper of merit, is soon to be published in the American Journal of Anatomy. For the past two years Dr. Harper has been Professor of Anatomy in Alma College, Michigan.

Royal Brunson Way, *Instructor in History.*

Mr. Way secured his Bachelor's degree from the University of Michigan, and after a year of graduate work in the same institution he was granted the Master's degree. He was for eight years Principal of the High School and teacher of History in East Saginaw, Michigan. During the past two years he has been a graduate student in History and Political Science in the University of Wisconsin, and has also done special research work for the Carnegie Institute at Washington.

Julius William Adolphe Kuhne, *Instructor in French.*

Mr. Kuhne graduated from the University of Montpellier, France, in 1887. He studied in Paris from 1889-91, and in Heidelberg from 1891-92. He was Instructor in Languages in Baltimore, Md., from 1894-96, and Instructor in Modern Languages at Jacksonville Academy, Jacksonville, Ill., from 1896 to 1903. During the year 1903-04 Mr. Kuhne has been a graduate student in the Romance Languages Department of the University of Chicago.

Frederick E. Deibler, *Instructor in History.*

Mr. Deibler graduated from Hanover College in 1900. He taught two years at Paw Paw, Illinois, and for the past two years has studied at Harvard University, receiving the degree of A. M. in 1904. While in Harvard he held the Austin Scholarship in Economic History. Mr. Deibler has been appointed Instructor in History in the Academy and will offer one course in College.

CHANGES IN COURSES OF STUDY.

New courses are announced provisionally, subject to later consideration and to the approval of the Faculty.

BIBLICAL LITERATURE.

Courses A and C have been changed from two hour courses to three hour courses and will meet on Mondays, Wednesdays, and Fridays at the hours designated in the catalogue.

BOTANY.

The hours for Course A will be Tuesdays and Thursdays. Laboratory 2-4, Lectures 4-5. Miss Edith Dennett, B. S., 1904, has been appointed assistant in this department.

ENGLISH LITERATURE.

The appointment of an additional instructor will permit a considerable enlargement in the work of this department. Professor Thorndike will continue to have charge of Course A, and offers Courses D, H, I, and K as electives. The topic for the Seminary for 1904-05 will be English Tragedy, with special attention to its relation to foreign literatures.

Assistant Professor Crow will continue Course J and will give a new course of two hours a week (Course L) on "The Principles of Literary Form."

Mr. Goddard will have charge of several sections of Course A and will offer as electives Course B (American Literature), Course C (Chaucer), and Course E (Spenser and Milton.)

GERMAN.

Announcement is made of a new course on "The History of German Culture," chiefly for graduate students, to be given by Mr. Busse. Wednesdays and Fridays at 4 o'clock.

Mr. Edward will offer a new course on "The Modern German Novel" (Course F), which will treat of the principal authors in this field during the nineteenth century and at the present time. Tuesdays and Thursdays at 3 o'clock.

HISTORY.

Mr. Way will have charge of Courses A, B, E, F, and H. Course D will be in charge of Mr. Deibler.

MATHEMATICS.

Courses AB and J will be in charge of Professor White, Course J meeting at 9 o'clock; Course BB will be in charge of Dr. Koppel; and Courses C and K in charge of Dr. Young.

Course G will not be given as a separate course, but much of the material of this course will be incorporated into Course H, which is open to all students who have had an introductory course in Analytical Geometry.

PHILOSOPHY.

By action of the Faculty taken at its last meeting Philosophy E is no longer to be included in the list of required studies. The course will probably be continued as a three hour elective for one semester.

ZOOLOGY.

With the coming of Dr. Harper as Instructor in Zoology the work in this department will be extended to include a course in Physiology especially adapted to intending medical students and for which credit will be given in the medical school.

ADMISSION TO COLLEGE.

The requirements for admission to the College of Liberal Arts are substantially the same as for admission to other colleges of equal rank. They comprise the following subjects completed in an approved high school:

English Language and Literature, a four year course.

Mathematics—Algebra through Quadratic Equations, plane and solid Geometry.

Science—One year's study, with laboratory, of a physical or natural science, preferably Physics.

History—One year's study of a well defined period.

Foreign Languages—Four year's work in Latin, or two years each in any two of the following: Latin, Greek, French, or German.

Elective—Three additional units of work in foreign languages, mathematics, science, history, economics, or manual training.

Where satisfactory certificates from approved schools cannot be presented, admission must be secured by examination. In case of deficiency in amount or in quality of preparation, the defective work may be made good in the Academy, situated on the University campus.

Students may register for college work if they are not deficient in entrance requirements by more than one unit, but all such deficiency must be made up during the first year of residence.

Entrance papers properly signed should be forwarded to the Registrar as soon as they are ready for filing. Time is saved both for the student and the college if this is done.

SCHOLARSHIPS.

The scholarships which for some years have been at the disposal of accredited schools in Illinois, entitling the holders to free tuition for their first year in college, were last year taken advantage of by thirty-two schools. For various reasons it has been deemed wise to make a change in the method of awarding these scholarships and consequently by recent action of the Board of Trustees they will be awarded hereafter by the University instead of by the schools. By the same action scholarships are made available for candidates from a much wider area, in fact, from any school either in Illinois, as formerly, or elsewhere. In making the awards physical vigor, qualifications for leadership, and promise of usefulness, as well as excellence in scholarship, will be taken

into account. Applications for scholarships must be made on regular forms to be obtained from the Registrar and must be indorsed by the corps of teachers in the school from which the applicant graduates. They must be in the hands of the Registrar not later than May 15.

A limited number of scholarships are also available for students in the second, third, and fourth years of the course for a degree.

STUDENTS' LIVING EXPENSES.

Men in attendance at the College may obtain board and lodging in private families in Evanston and in club houses at reasonable rates. Data gathered during the past year show that the average rent paid for rooms is slightly over five dollars a month, and the average cost of board is three dollars and twenty-five cents a week.

Women students living in Willard Hall pay for board and room from six dollars and fifty cents to seven dollars and fifty cents a week, according to the desirability of the room. Students in Pearsons and Chapin Halls pay for board and room one hundred and ten dollars a year in four equal installments in advance.

SELF-SUPPORT.

Numerous inquiries are addressed to the authorities of the University, asking whether the institution furnishes to students means of employment which will enable them to support themselves wholly or in part while engaged in the prosecution of their studies. It is proper to say that the University does not undertake to furnish employment to any student, and it does not encourage students to enter who are entirely without resources. It happens each year that not a few students are able to aid themselves very materially by their own labor while carrying on their studies, but the student is obliged to rely on his own ability, industry, and economy in all such cases. The Young Men's Christian Association conducts a bureau of self-help which is of great assistance in securing work for those desiring it, and any inquiries sent to the Secretary of that Association will receive careful attention. It is strongly advised, however, that no student should apply for admission who has not funds sufficient to meet the expenses of at least a half year.